The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. LVI, No. 15 CHICAGO, ILLINOIS APRIL 15, 1911

CHRONIC PANCREATITIS: ITS SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT

BASED ON A STUDY OF THIRTY-EIGHT CASES *

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PHILADELPHIA

In the domain of pancreatic disease there still remains much unbroken ground. Uncertainties in pathology, obscurities in symptomatology and difficulties in diagnosis beset us and render our clinical judgments difficult and our therapeutics far from satisfactory. Only by the accumulation of accurate observations can the subject be cleared up, and it is desirable that each should add his personal experience. With this in mind I have reviewed those cases of chronic pancreatitis which have come under my personal observation during the past few years and of which my records are sufficiently complete to warrant their inclusion. For the laborious task of collecting and analyzing the cases I am indebted to two of my house doctors, L. C. Kinney and LeFevre Stewart, and to my assistant, Dr. D. B. Pfeiffer.

Of the various affections of the pancreas, those composing the group due to inflammation and its sequels are the most frequent and important. By reason of its protected situation, direct injuries to the pancreas are uncommon. Likewise, while it is subject to the various neoplasms affecting parenchymatous organs, there is no such tendency toward tumor formation as occurs in certain other parts of the body. The observations of recent years, however, made chiefly at the operating-table, have made it apparent that inflammatory changes are much more frequent than anyone had hitherto surmised. It was but natural that the most extreme grades of inflammation were the first to claim attention, and since the pioneer work of Fitz, the acute and subacute forms of pancreatitis have been clothed with a fairly definite pathology and symptomatology, though it is but just to say that our knowledge even here lacks completeness; and in the individual case the difficulties are many.

It is, however, when we approach the consideration of the lesser degrees of inflammatory change of chronic nature with their less characteristic clinical declarations, that we feel our ground often slipping and insecure. Fitz wrote understandingly of chronic pancreatitis and the chief additions to our knowledge since then have been made by Körte, Oser, Lancereaux, Opie, Moynihan, Robson, Cammidge, Truhart and Lazarus. Still most clinicians are agreed that the diagnosis of chronic pancreatitis is exceedingly difficult. The extremes of opinion in this respect are those of Opie, who holds that "the lesion is seldom associated with such definite symptoms that it is recognizable during life," and of Robson and Cammidge, who state that, "from the information obtained by a careful examination of the patient, a knowledge of the history of the case, and the results of a chemical and microscopic examination of the excreta, a correct opinion may be formed in a large majority of instances." My own feeling in regard to this matter is located somewhere between these pessimistic and optimistic expressions. Certainly the diagnosis has been made a sufficient number of times to demonstrate that it is not too difficult to attempt; but it is equally true that our present criteria are too uncertain and inconstant to warrant a claim for great accuracy. We must aim to improve our methods and our understanding. There are no pathognomonic symptoms, no short cuts to the diagnosis of chronic pancreatitis. It is to be made only by the solution of an equation, the factors of which are obtained by three separate lines of inquiry, viz:

1. The anamnesis.
2. The physical examination.
3. The special tests designed to show disturbances of pancreatic function.

I have divided my cases into two groups, according to the presence or absence of gall-stones. Of the seventy-three cases, in thirty-five there were stones in some portion of the biliary passages, and in thirty-eight there were none at the time of operation.

In these remarks I shall restrict myself to the non-calculous group, believing that these cases will give a truer picture of pancreatic disease *per se*. The cases with stones will be considered at another time. The series is still not entirely pure, since twelve had demonstrable changes in the gall-bladder at the time of the operation. Hence a certain admixture of biliary symptoms may be present in this analysis.

A careful history is of the first importance. Habits of eating or drinking which set up chronic inflammatory changes in the stomach and duodenum will be found in certain cases; in others a history of the infectious conditions which are especially likely to be followed by disease of the biliary passages. Often a history of antecedent, disregarded and perhaps forgotten indigestion is obtained. If disease of the bile-ducts and gall-bladder have preceded the pancreatic inflammation, the early history will partake of the inaugural symptoms of that disorder, and perhaps frank attacks of hepatic colic have occurred.

The relation of sex to chronic pancreatitis as compared with cholelithiasis is reversed. There were twenty-two males and sixteen females. This corresponds with Opie's figures, who found seventeen males and thirteen females. Bohm's large statistics also show that 65 per cent. occurred in the male sex. In view of the preponderance of biliary infections in the female sex, this fact is significant as showing that there must be some

* Read before the College of Physicians of Philadelphia, March 1, 1911.

essential difference in the factors which produce infection in the ducts of these closely situated viscera. According to Desjardins, the same infection arising in the intestine and traveling up the bile and pancreatic ducts will, in the former situation, induce a stone-forming catarrh, but in the pancreas will cause a chronic interstitial inflammation. The lack of parallelism in the two kinds of infection, while not conclusive, creates a presumption against such complete similarity of origin in the majority of instances.

The incidence according to age is as follows:

Below 30	4
30 to 40	11
40 to 50	11
50 to 60	8

More than two-thirds of Opie's cases occurred between the ages of 40 and 60. In my series it is seen that the age is lower, two-thirds occurring between the ages of 30 and 50. This is accounted for by the fact that all but one of my cases were operative while Opie's statistics include post-mortem records.

The onset of symptoms is spoken of as sudden in twenty-five cases, gradual in thirteen; but these figures refer especially to exacerbations, premonitory symptoms being present in the majority of instances.

The leading and most constant symptom is pain, which was absent in only three cases. I am conscious of the fact that I am dealing with a series of cases that have been driven to surgical intervention. This magnifies the importance of pain as a symptom, for too frequently it requires suffering to bring a patient to the operating-table. The practitioner must see many cases of pancreatitis in which pain is absent or inconspicuous.

The pain of chronic pancreatitis, or its mild exacerbations, is not in itself characteristic. It varies from dull discomfort or ache to sharp lancinating or colicky pain quite like gall-stone colic. It may be merely a sense of fulness or oppression in the epigastrium. The pain was severe in twelve cases; moderate in twenty-one; in eleven it was colicky.

In the majority of cases when the pain was colicky in type the gall-bladder was diseased. In one instance several small stones had been passed *per vias naturales* a short time before, though none was found at the time of operation. It seems probable that by the dilatation of the ducts following passage of a stone, the gall-bladder had been enabled to empty itself of its calculous contents. From these observations I am inclined to interpret colicky pain, when present, as evidence of involvement of the bile passages. In seventeen cases the pain was located in the epigastrium; in fifteen beneath the right costal margin; in one beneath the left costal margin; in two it was lumbar, and in one severe exacerbation it was general. From the primary location radiation took place to the epigastrium in five; to the back in nine; to the right and left costal margin in eight and one cases, respectively, and to the right and left shoulders in nine and two cases, respectively.

No definite relation to eating or to any particular articles of food was brought out in this series. This seems to be of some value in differentiating pancreatic pain from that of ulcer of the stomach or duodenum and, to a less extent, from gall-bladder disease.

It has been observed that in some cases the carbohydrates are most likely to set up digestive disturbances and Sailer found that the administration of glucose for the purpose of testing the assimilation limit was particularly distressing to these patients.

But slightly less frequent than pain is the history of nausea or vomiting or both. Twenty-one of my patients had had attacks in which vomiting figured, while ten more had been nauseated without actually vomiting. Opie has called attention to the association of chronic interlobular pancreatitis and persistent vomiting, and cites four of his thirty cases, in which advanced chronic interstitial inflammation was found in individuals who during life had suffered with persistent vomiting. While I have not encountered vomiting lasting persistently over a considerable period of time, yet the prominence of nausea and vomiting occurring in attacks at variable intervals indicates its importance as a symptom of the more severe type of the disease.

In ten cases it occurred before the onset of actual pain. This may have been due to what Mayo has spoken of as "the association of surgical diseases in the upper abdomen," for we must always remember that pancreatitis is a disease which in the majority of instances is preceded by, or associated with, disease of the neighboring organs such as gastritis, duodenitis, or biliary catarrh. The vomiting of pancreatitis is non-characteristic, though often containing mucus and bile. Eructations of gas are common in this disease as in most other abdominal affections, and were specially mentioned as a distressing symptom in twelve cases.

The third important symptom is jaundice. This also, as a striking and intensely disagreeable thing for the patient, like pain, is apt to be magnified in importance in any operative series. It was present at the time of operation, or previously in twenty-four cases, absent in fourteen. Eleven patients were jaundiced when admitted. The mechanism of the production of jaundice is easily understood when it is considered that the common duct, in approximately two-thirds of all cases, courses through the head of the pancreas before reaching the duodenum. As this is the portion of pancreas which is most commonly affected by inflammation, it is to be expected that biliary drainage in a percentage of cases will be interrupted by tumefaction of the tissues embracing the duct. It is certain that many cases of so-called catarrhal jaundice are to be explained in this manner.

Owing to this inconstant relation of the choledochus to the pancreas, it is apparent also that a high degree of inflammation or sclerosis of the pancreas may be consistent with the absence of jaundice. All the cases of jaundice with pancreatitis are not to be explained on mechanical grounds, but a certain percentage are doubtless due to disease of the bile passages themselves or to extension of inflammation from a catarrhal duodenum. The jaundice may come on painlessly, as occurred in four cases. It may also be continuous, as in five cases. The surgical importance of these facts cannot be overestimated. When associated with rapid wasting and loss of strength, which may occur in this disease, the clinical simulation of malignant disease of the head of the pancreas is complete and patients have repeatedly been denied operation under the impression that it was useless; a fatal blunder. Here also I may say that the mistake is not always rectified by simple exploratory operation, for the hardened nodular pancreas of advanced inflammation may so resemble carcinoma as to defy differentiation by direct inspection and palpation. Even the glands of the neighborhood may be greatly swollen as though by extensive metastasis. Robson, Moynihan, Mayo, and other leaders in upper abdominal surgery, have more than once mistaken inflammation for carcinoma, and I own to the same error on a number of occasions. In one case not

only was jaundice and wasting present, but there was marked ascites due probably to the biliary cirrhosis or to pressure of the thickened head of the pancreas on the inferior vena cava. The patient made a good recovery after operation.

I have in mind now a physician of this community on whom I operated within the past year and closed with a hopeless prognosis of pancreatic carcinoma. The subsequent course has led me to believe that in this case I was deceived.

More often jaundice is preceded by pain as in gallstone colic, though, as previously stated, the pain is apt to be less severe and not colicky in character. In the more acute forms of pancreatitis it is, of course, a well-known fact that the pain is of such agonizing severity as hardly to be compared with that of any other disease. Such an exacerbation may occur at any time in the course of chronic pancreatitis.

The combination of intermittent jaundice, pain and febrile attacks may also be perfectly characteristic of Charcot's hepatic intermittent fever. I have diagnosed stone in the common duct in such cases and when considering them later have been unable to find any reason why I should not do so again. I am not sure that a stone may not have been present and escaped shortly before operation, and I have referred to one instance above in which such was known to have been the case.

The degree of jaundice may vary from the slightest tinge to the "black jaundice" of the older writers, which was supposed to be diagnostic of malignant disease. Sialorrhea, though often mentioned, I have not observed.

General symptoms are usually well marked. The existence of chronic pancreatitis, to a degree that pancreatic function is seriously disturbed, is always associated with a loss of weight. This is due to several causes: First, to a restriction of the diet voluntarily or by advice of physician in the effort to control the symptoms of indigestion. At times impairment of the appetite is responsible for decreased intake of food, though loss of appetite is by no means a constant accompaniment of pancreatitis. In this series it is mentioned seven times. There is also no disgust for meat. The persistence of the appetite is a valuable point of difference from carcinoma. Second, it is due to malassimilation of the imperfectly digested food. Third, in the cases in which jaundice is present, to the influence of the biliary intoxication; and finally, in a few cases, to the absorption of the products of bacterial activity.

Loss of weight was noted in twenty-one cases. The state of nutrition at the time of operation was, in six cases, obese, in ten good, and in thirteen poor. Loss of strength follows loss in weight, and was complained of in ten instances. I have already referred to the rapid loss of weight and strength which may take place in some instances, particularly when jaundice is a marked symptom. The cachexia may be as rapid and extreme as in malignant disease. In the usual case such marked wasting does not occur.

In most instances fever was known to have been present and in five a history of chills and sweating was obtained. In one the temperature was slightly subnormal. In eleven at the time of operation it was between 98 and 99 F., in thirteen between 99 and 100 F., and in four between 102 and 103 F. Fever is not such a prominent symptom in the prolonged course of chronic pancreatitis as most figures would seem to indicate. As a rule the temperature is normal. Fever is present only during exacerbations. Between the attacks there may be non-committal indigestion. In thirteen cases of this series there was indigestion between attacks. The longest duration of the disease as estimated by symptoms was seventeen years; the shortest eleven days. Ten had had frequent attacks of varying severity.

The bowels, as a rule, are constipated. Nineteen patients suffered with chronic constipation, and in thirteen cases constipation was a feature of the attacks. In only five was there a history of diarrhea.

From this it will be seen that caution must be used in employing as an aid to diagnosis the classical description of "frequent bulky motions, pale in color, offensive and obviously greasy." As stated by Robson and Cammidge, such stools are present only in advanced conditions.

The physical examination rarely affords much positive information. It is of more value in excluding other abdominal conditions. During exacerbations there may be epigastric tenderness and rigidity. When this is true it is almost impossible to detect anything in the nature of a mass. During the intervals, in patients with thin flaccid abdominal walls, it is sometimes possible to palpate the swollen head of the pancreas. In three cases of this series a rather indefinable mass could be felt. More often a considerable degree of pancreatic swelling and sclerosis will defy appreciation through the body wall and overlying viscera. In the majority of instances the pancreas is well covered by the adjacent organs. Körte, who examined thirty cadavers with reference to this point, found that in twenty the pancreas was completely covered, while in ten some part of the gland was covered only by omentum. In six instances there was ptosis of the colon, with exposure of a portion of the head of the pancreas between the colon and liver. In two bodies it was exposed in the median cleft of the liver, and in two, which were the seat of marked gastroptosis, the pancreas could be palpated directly beneath the gastrohepatic omentum. In palpating through the body wall, however, these slight exposures of pancreatic tissue are rarely sufficient to give a definite sense of mass even to the tactus eruditus.

As most of these patients were operated on during or just after some exacerbation of symptoms there was a degree of tenderness present in most of them. In eight no tenderness was elicited. In the remainder tenderness was found below the right costal margin in twenty; beneath the left in three; in the mid-epigastrium in eleven; over Mayo-Robson's point in three, and in one more severe case it was general. Rigidity was observed in the right hypochondrium in nine cases and over the epigastrium in three. There was moderate distention in six cases.

Enlargement of the gall-bladder has been observed in a number of cases, but it was not felt prior to operation in this series. The liver, however, was noted as enlarged nine times.

The general examination at times may reveal loss of weight and jaundice as above stated.

The blood frequently shows a secondary anemia which is seldom grave. In about one-half of my cases the hemoglobin was below eighty and the erythrocytes below 4,000,000 per c.c. A moderate leukocytosis was present in a few of the more acute exacerbations. Generally the numerical ratio of the leukocytes was unaltered.

Now as to the various tests used to determine the functional activity of the pancreas and upper digestive tract: A gastric analysis was made in twenty-four cases. In two-thirds of these there was subacidity both of free hydrochloric acid and total acids. In no case was there

a marked hyperacidity. In other respects the analysis was not abnormal. The great number of conditions associated with subacidity of the gastric contents deprives this observation of any diagnostic value.

Somewhat more information can be derived from examination of the stools. In ten instances they were clay-colored. It is well known that this characteristic does not depend so much on the absence of bile as on the presence of an excess of fatty acids or fat itself. The tests for stercobilin were positive in all of these instances, showing that bile was entering the intestinal tract. This is important and leads to the deduction that since the liver is functionating, the failure to digest the fats must be due to deficiency of the pancreas. An excess of neutral fat so marked as to be visible to the naked eye, i. e., steatorrhea, was present in only six cases, and an excess of soaps was found in five cases. In pancreatic disease the total amount of unabsorbed fat may reach 50 to 60 per cent. in cases of chronic pancreatitis, and even 75 to 90 per cent. in cases of malignant disease (Robson and Cammidge). Carnot says that after suppression of the bile alone, the feces contain 60 per cent. of fat; after suppression of the pancreatic secretion, 70 per cent. of fat; and after suppression of both bile and pancreatic juice, they contain 90 per cent. of fat. In health, according to Müller, "the unabsorbed fecal fats consist of approximately 20 to 30 per cent. of neutral fat and from 70 to 80 per cent. of split fat, which is partly fatty acids and partly soaps." R. Gaultier has shown that in cases of suppression of the bile there are found in the feces from 35 to 45 per cent. of the ingested fats; 63 per cent. of this exists as neutral fats, and 35 to 40 per cent. as split fats (21 per cent. as fatty acids, and 12 per cent. as soaps). He has found that, in cases of suppression of the pancreatic functions, 80 per cent. of the fecal fat is in the form of neutral fats, and only about 15 per cent. as split fats (10 per cent. as fatty acids, and 5 per cent. as soaps); and if both biliary and pancreatic secretions are absent, 90 per cent. of the ingested fat is recovered from the feces, of which 90 per cent. is in the form of neutral fats, and 11 per cent. as split fats (10 per cent. as fatty acids, and 1 per cent. as soaps). Müller found that in cases of pancreatic disease, even though the total percentage of fecal fat might not be increased above the normal, yet that the proportion of split fat is always decreased (averaging about 40 per cent. of the total fat), showing decrease in the digestive power for fatty food. It has been asserted by Katz that diminution of the split fat below 70 per cent. of the total fecal fat invariably signifies disease of the pancreas, except in nursing infants and patients with profuse diarrhea. It remains to be seen whether the quantitative relations of the fat and its derivatives in the feces will be of any great assistance. Since we have found practically normal stools in cases which presented very definite chronic pancreatitis, it is evident that a negative finding is not conclusive. Positive results, on the contrary, must be regarded as very suggestive, and the examination of the feces for its fat and bile contents constitutes a very important element in the diagnosis. Excess of muscle fibers could be found in those instances of palpably deficient pancreatic function, but was not a characteristic of this series. The digestion of protein material appears to be less helpful than fat digestion. Fitz has pointed out that the condition occurs "only when there is extreme diminution of the pancreatic juice, and is significant only when gastric digestion is normal, when the diet contains no excess of meat, and when there is no diarrhea" (Opie). In fact, the majority of stools showed nothing by which a presumptive diagnosis of lack of pancreatic secretion could be assumed. As Opie remarks, "in most instances a considerable part of the parenchyma is undestroyed, and is capable of performing, in part, at least, the functions of the gland." The characteristic stool of pancreatitis, when present, is of great value in the diagnosis, but when absent does not negative the existence of pancreatitis.

The examination of the urine has been given special prominence by the reaction of Cammidge, which has received the endorsement of such able surgeons as Robson and Moynihan. As is well known, this reaction consists in the demonstration in the urine, when treated by a rather complex chemical procedure, of certain crystals of a definite morphology and certain solubility characteristics, but of unknown composition, though it is thought to be a derivative of a pentose, probably an osazone.

A positive reaction is said to indicate the presence of simple pancreatitis. It has been found in a percentage of cases of carcinoma of the pancreas, which is explained by the originators as due to the presence of an inflammatory zone about the neoplasm. The improved or "C" reaction is now used to the exclusion of the old "A" and "B" methods.

The table published in Robson and Cammidge's recent book gives the reaction credit for accuracy rarely attained by any other laboratory method.

In sixty-seven cases of pancreatitis it was positive in every case. In sixteen cases of carcinoma of the pancreas it was found in four (25 per cent.). On the other hand, in fifty normal cases used as controls it was uniformly negative, while in 117 associated cases, in which there was no pancreatitis, it was positive only four times. This is a remarkable showing, and if obtained by others would almost obviate the necessity of obtaining a history, a physical examination or, indeed, seeing the patient at all. We have paid special attention to the Cammidge reaction in the German Hospital. Dr. Kinney has been especially interested in it, and his report of the first 154 "C" reactions appeared in the *American Journal of the Medical Sciences* (December, 1910). Following the cases included in his report we have had 197 additional cases, making, in all, 351, which constitutes a very fair experience by which to judge the merit of the test. While I am free to admit that the originator of the reaction can probably perform it best, yet his very detailed directions have been most carefully followed, and our results must certainly approximate the best obtainable under similar circumstances.

Of nineteen cases, in which the test was made in the present series, it was positive in four and negative in fifteen. This is a scarcely higher percentage of positives than we obtained in sixty cases in which the pancreas appeared to me to be normal to direct palpation at the time of operation. Ten of these sixty cases gave a positive Cammidge reaction. One-fifth positive in pancreatitis, as compared with one-sixth positive when no pancreatitis existed, does not inspire faith in the reaction. In fifty-five cases of chronic pancreatitis, confirmed at operation, some of which were complicated by other upper abdominal disease, there were eighteen positives (32 per cent.), a slightly better showing. Two acute cases were both positive. One case of pancreatic cyst was negative; one of pancreatic fistula was positive, and of eight cases of carcinoma of the pancreas, one-half gave the reaction. Roughly speaking, in all my cases in which the condition of the pancreas was determined

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accurately at the time of operation, this supposedly specific pancreatic reaction was obtained only about two and a half times as frequently when the pancreas was affected as when it was not. While this speaks for a degree of dependence on pancreatic disease, it does not, to my mind, indicate that that relation is by any means so intimate and constant as we had been led to hope.

The urine in suspected pancreatitis should be carefully tested for bile and sugar. Two cases in this series showed glycosuria. Sugar may appear in the urine during an exacerbation and clear up on subsidence of the inflammation. This is a threat of oncoming diabetes and should not be overlooked.

I have not used the Loew pupillary reaction, which consists in a dilatation of the pupil on instillation of epinephrin into the conjunctival sac. This is supposed to be due to some interrelation between the produce of the suprarenal capsule and the hypothetical internal secretion of the pancreas. Clinical reports do not accord it much value.

Nor have I had experience with the various methods of obtaining duodenal jnice, either through the stomach or in the feces, and testing it for the presence of pancreatic ferments. It seems to me that as these ferments act in incredibly small quantities, so long as there is any pancreatic tissue functionating we would expect to get the reaction due to their presence. When they are absent the condition would probably be far advanced and capable of detection by simpler means.

The chief tests of this sort are as follows: Schmidt's test depends on passing a small piece of beef, enclosed in a silk bag, through the intestinal tract, and observing whether the muscles of the fibers showed digestion. Sailer quotes the work of Steele, who came to the conclusion that this was valueless.

Müller's test aims to demonstrate the absence or presence of a proteolytic enzyme in the feces, by observing whether digestion of blood-serum will take place when drops of fecal material, appropriately prepared, are placed on its surface.

Sahli's desmoid test consists in administering capsules, hardened in formaldehyd resistant to the gastric juice, but soluble in pancreatic secretion. In the capsule is placed a substance capable of rapid absorption and excretion in the urine, thus determining whether solution has been effected.

Solomon attaches great importance to the amount of lecithin in the feces, which is said to be increased in pancreatitis.

Fedeli and Romanelli have devised a test to measure the activity of carbohydrate digestion.

While it is too early to say that these tests have no value it is not likely that they will put an end to our difficulties in the diagnosis of chronic pancreatitis.

The appetite is usually fair or quite good. If nausea or vomiting occurs without severe pain, and if remittent jaundice comes on with distress, but without characteristic gall-stone seizures, the presumption is strengthened.

If the pancreas may be felt enlarged and tender, or the feces present the characteristic stool, the diagnosis can be made with a fair degree of certainty. It is often necessary to observe these patients over a considerable period of time to come to a definite conclusion. As this early non-characteristic stage is very like the non-characteristic beginnings of some forms of malignant disease in the upper abdomen, it is necessary to be guarded in the prognosis and the decision to delay operative treatment.

The chief conditions likely to be mistaken for pancreatitis are cancer of the pancreas, of the common bile-duct or the liver, gall-stones in the common duct, chronic cholangitis without stones, and chronic appendicitis of the type manifesting itself chiefly or solely by upper abdominal symptoms.

The treatment of chronic pancreatitis begins with the amelioration of the predisposing cause or causes, if they can be determined. When gastroduodenal catarrh is present as a result of vicious habits of eating or drinking, a reform must be instituted in these respects. When it is associated with disease of the biliary passages, treatment should be directed toward that condition. Wohlgemuth has shown that the pancreas responds actively to a carbohydrate diet, and that if rest for the inflamed gland is desired it is necessary to be sparing in articles of that nature. Carnot is enthusiastic in advocacy of supplying the missing elements of digestion by administration of a preparation of the gland. Sailer also reports good results in two cases treated on this basis. While such measures may suffice for mild cases, or at times for more severe forms, there are others that go from bad to worse on careful medical treatment. Continued loss of weight, persistence of indigestion, recurring exacerbations, jaundice or a lowered tolerance for carbohydrates as shown by transient glycosuria should cause the physician to advise operation. Epecially binding is this obligation if there be associated disease of the biliary tract.

In the surgical treatment of chronic pancreatitis, Mayo Robson occupies the same position as Fitz does to the development of our knowledge of the disease. He was the pioneer in showing that free drainage of the biliary tract, and through this outlet, drainage also of the pancreatic ducts, would in many instances enable the pancreas to cast off the infection and resume its normal function. This is, in a nutshell, the principle of the treatment, and though it may seem roundabout, its efficacy has now been demonstrated too often to admit of a question. The easiest and most advantageous method of providing drainage is by a cholecystostomy. If for any reason this is impracticable, drainage of the common duct should be done. At times when the closure of the common duct is complete and likely to be lasting, a cholecystenterostomy may be best, but as a general rule external drainage permits subsidence of the swelling of the pancreas and a reestablishment of the functions of the ducts. Drainage should be maintained for three or four weeks at least. It is difficult to keep the fistula from closing too soon, and in cases of marked pancreatic disease it is best to make a cholecystduodenostomy. Just how long this opening will remain patulous is a question, for I have reoperated in cases in which this operation had been performed, and have found the opening closed. It should not be forgotten, also, that cholecystduodenostomy is an operation of greater magnitude and slightly higher mortality than simple cholecystostomy.

The surgeon to-day makes the same plea for chronic pancreatitis as he made twenty years ago for appendicitis. Send patients early before complications create a mortality.

1634 Walnut Street.

A Funny Proposition.—The *Boston Transcript* makes the very pertinent remark that man is a funny proposition because, when he reads a medical book, he fancies he has every disease described; but when he reads the work of a moralist, all the faults that are pointed out he sees, not in himself, but in his neighbor.

INTESTINAL BACTERIOLOGY: A SUMMARY*

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It is the purpose of this paper to discuss certain factors of fundamental importance in determining the nature and extent of bacterial activity in the intestinal canal; to explain what these factors are and how they are arrived at; to indicate their significance and to point out how they may be applied practically in intestinal therapy. The results of which this paper is a summary were obtained chiefly by feeding animals (cats and monkeys) on diets consisting alternately of protein and carbohydrate. The alternations in diet were made biweekly. The object of these experiments was to determine the influence of diet on the character of the intestinal flora.

From the point of view of bacterial activity within it, the alimentary canal must be regarded as a wonderfully perfect incubator and culture medium combined—an incubator in which the range of reaction and diversity of foodstuffs is so great that practically all organisms capable of developing at the body temperature of the host can conceivably find some place suited for their development. It is necessary to keep this conception in mind, since the essential feature of the investigations about to be outlined consists of changing the food of the bacteria growing in this intestinal incubator in a perfectly definite manner and sequence, and observing the effects by studying the readjustments of the intestinal flora to meet the new conditions established as the food of the host changes.

The problem is one which must be approached from the dynamic rather than from the cultural standpoint, and the key to its solution must come from the biochemistry of the bacteria concerned in the process rather than from their cultural characteristics. As Dr. Theobald Smith has clearly and tersely expressed it: "It is what bacteria do, rather than what they are, that commands our attention, since our interest centers in the host rather than the parasite."

Before discussing the results in detail, it will be necessary to call attention to several features of the problem which are better mentioned here than later on:

1. In these experiments, the diet of the host was sharply limited to two classes of foodstuffs, and as a working hypothesis, it is fair to assume that the bacterial response to these dietary alternations would consist largely of alternations between proteolytic and fermentative types of organisms, respectively.

2. The intestinal flora can respond to these changes in diet in two ways: (a) the flora may become dominantly proteolytic, then fermentative, as the diet is changed, and (b) in addition to the alternations in bacterial types, certain organisms can actually change their metabolism to accommodate themselves now to a protein, now to a carbohydrate regimen.

3. The products of digestion of protein in the alimentary tract are far more numerous and varied in composition than are those of carbohydrate; consequently one would expect *a priori* that the protein flora would be more heterogeneous than that developed on a carbohydrate regimen. That such is the case is well illustrated by comparing the fecal floras of adults and nurslings. In the former, on a varied regimen, containing much protein, the flora is very heterogeneous, while that of the latter, on a monotonous diet in which protein is in the minority, and carbohydrate a prominent feature, the flora is relatively homogeneous.

The method employed in this work consisted essentially of inoculating the mixed fecal flora into suitable media and studying the resulting reactions in them. From time to time cultures of the prominent bacteria discernible in the fecal flora were isolated and compared with those growing in the cultures; by so doing it was possible to determine the suitability of these media for the purpose they were to fulfil, and to form a judgment of the character of the organisms which composed the fecal flora as well.

The media finally selected were gelatin (sugar-free), acetic acid-dextrose broth (N/5 acetic acid in 2 per cent. dextrose broth), dextrose, lactose and saccharose fermentation media and milk fermentation tubes (Smith). Each of these media presents certain specific advantages in addition to its general utility as a food for bacteria. Much valuable information was obtained from the study of Gram-stained preparations of the feces, fermentation tube sediments and from the growths in other media. It was possible to form a judgment of the suitability of the various media by comparing the prominent organisms in the feces and those in the media themselves.

These media could be divided, according to the kinds of bacteria growing in them into three groups:

Group 1: Gelatin: particularly adapted for the proteolytic forms.

Group 2: Acid dextrose broth: specific for certain fermentative organisms, chiefly of the *B. acidophilus* type.

Group 3: Fermentation media and milk: practically all the dominant bacteria represented in the feces grew well in these media, and consequently they were, in a sense, battle-fields in which the various types of organisms struggled for supremacy. The manner in which the mixed fecal flora acted in the media of Group 3 furnished a valuable clue to the dominant type of bacterial activity in the intestinal tract.

Turning now to the phenomena exhibited by the various bacteria of the alimentary tract as the diet was changed, it was found that as the protein flora became dominant, the Gram-stained fields prepared from the freshly passed feces contained many large and medium sized Gram-positive rods with rounded ends. Gram-negative forms similar to colon bacilli morphologically, and a few coccal forms also appeared. In addition, there were frequently moderate numbers of Gram-negative, thin rods.

Inoculated into gelatin, the mixed intestinal flora caused a decided liquefaction, which commenced as a rule within eighteen hours and continued until practically the whole medium was peptonized. In sugar broths there was a considerable volume of gas formed within eighteen hours, not infrequently 100 per cent. of the closed arm. The Gram-stained sediments from these fermentation tubes contained both the short, Gram-negative bacilli morphologically like *B. coli* and *B. proteus*, and also larger, longer and thicker Gram-positive rods which were morphologically similar to the so-called gas bacillus (*Bact. welchii*), but which were in reality organisms belonging to the *subtilis* group. It is noteworthy that the gas bacillus did not play any prominent part in the formation of gas in these media.

Acid dextrose broth remained unchanged, and there was very little growth in it.

Milk was vigorously attacked; the casein peptonized to a very considerable degree, and, usually from 50 to 80

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per cent. of gas was produced, all within eighteen hours' incubation at body temperature. This rapid peptonization and gas formation in milk is a striking phenomenon, and deserves comment. The same action can frequently be brought about, although much more slowly, by inoculating milk contained in fermentation tubes with a culture of an organism belonging to the *subtilis* group, then, after peptonization has commenced, reinfect the medium with a pure culture of *B. coli* or *B. proteus*. Under these conditions the peptonization continues, and in addition, there is a voluminous liberation of gas. It is absolutely essential for the success of the experiment that the order mentioned be observed. If the colon bacillus is inoculated first, and then, after a preliminary incubation, the subtiloid organism be introduced, the phenomena mentioned will, as a rule, not take place. This is a true instance of symbiotic activity which is not confined to bacteria derived from the intestinal tract. I have encountered it in bacteria from meat and other albuminous products which have commenced to decompose. It should be stated that the combined activity of these two organisms is greater than the sum of their separate activities. The explanation that seems most thoroughly to explain all the facts is that the subtiloid bacilli first act, and, in the case of the milk, peptonize the casein, but do not attack the lactose; since this sugar is unfermentable by most subtiloid organisms. The solution of the casein in some manner makes the lactose more accessible to the action of the colon bacillus, and the alkaline reaction produced by the subtiloid bacillus tends to neutralize to a certain extent the acid produced by the fermentation of the lactose by the colon bacillus, so that the process can go much further than would be the case with the colon bacillus alone. On the other hand, the production of acid by the colon bacillus neutralizes the alkali produced by the subtiloid organism, thus preventing a too alkaline reaction, which would inhibit the activity of the subtiloid bacillus. In dextrose and lactose fermentation media, again, one sees the same phenomenon of unusual gas production when the same organisms are growing symbiotically. The explanation appears to be the same in these instances as well as in the milk.

The organisms dominant on a protein diet, then, are of two principal types: liquefying and aerogenic bacilli, respectively. Of the former, the subtiloid bacilli appear to play the most prominent rôle, while *B. coli* and the various forms of *B. proteus* are the most commonly encountered aerogens. Anaerobes do not play an essential part in these processes.

A change in diet from protein to carbohydrate was associated with perfectly definite changes in the character of the fecal flora. The fecal Gram-stained fields became strongly Gram-positive in place of the more or less equal distribution of Gram-positive and Gram-negative organisms. The organisms were longer, more slender, and frequently were seen to be slightly curved. The flora was also much more homogeneous in appearance.

In gelatin there was very little growth when the carbohydrate flora became fully established, and the organisms which did develop were vestiges of the protein flora.

Acid dextrose broth on the contrary contained a good growth which consisted almost wholly of the rather long, slender curved organisms discernible in the Gram-stained fields of the carbohydrate fecal flora. These organisms were of the *B. acidophilus* type, and in consequence of the acidity of the medium (N/5 acetic acid) were in practically pure culture.

The sugar broths (dextrose, lactose and saccharose) and milk fermentation tubes were less visibly changed with the carbohydrate flora; the gas volume was very much diminished both in the sugar broths and milk, and the actual amounts of growth were also less than was the case when protein feces were inoculated. As a rule less than 10 per cent. of gas was produced in the sugar broths, the turbidity in the closed arms of the fermentation tubes was less marked, and the sediments showed both the long, thin Gram-positive organisms noted above (*B. acidophilus*) and similar, slender organisms, also Gram-positive with bifid ends. The latter organisms were found to be *B. bifidus*, organisms very common in the fecal flora of normal nurslings.

In milk there was no gas formation, and no peptonization. The milk, however, was firmly coagulated.

The significance of these changes appears to be explained by the fact that the fermentative organisms of the *acidophilus* and *bifidus* types produce acid rapidly from the time they are inoculated into the various media in which they thrive, and that this acid-production is so rapid and so intense that even the rapidly growing colon and subtiloid bacilli cannot develop in its presence. This is true, of course, only in those media containing fermentable sugar. In gelatin, which contains no sugar, or in plain, sugar-free broth, the fermentative organisms of the *acidophilus* and *bifidus* types will not grow, and one finds in such media the typical proteolytic flora—*B. coli* and *subtilis*.

To recapitulate: It will be seen that in experimental animals, alternations in diet between protein and carbohydrate are associated with rather definite changes in the character of the intestinal floras of these animals. These bacterial changes are demonstrable both by staining reactions and by the changes produced when the mixed floras are inoculated into media. These changes consist essentially of alternations between proteolytic and gas-forming bacteria on a protein diet, and acid-forming bacteria on a carbohydrate regimen. The absence of carbohydrate prevents the development of the acid-forming bacteria on a protein diet, and the excessive amounts of acid produced by the fermentation of sugar inhibits the growth of the proteolytic and aerogenic forms on the carbohydrate regimen.

THERAPEUTIC APPLICATION OF FINDINGS

Turning now to the practical application of these results to intestinal therapy, we may conveniently consider them in two groups:

1. Those cases in which there is an overgrowth of undesirable forms of the bacteria more or less commonly present in the intestinal tract. These organisms do not, as a rule, bring about appreciable lesions of the intestinal mucosa. The activity of these bacteria is limited to their more or less unrestrained growth in the intestinal contents, and their harmful effects are attributable to the absorption from the intestinal tract by the host of their products of metabolism. Some of these products have been shown experimentally to be actually harmful. These endogenous infections may cause diarrhea, as well as that rather indefinite chain of symptoms known as auto-intoxication of intestinal origin.

2. True exogenous infections, in which foreign bacteria such as the typhoid, dysentery and cholera bacilli gain and maintain a foothold in the alimentary tract. These organisms are able to penetrate the intestinal mucosa.

The treatment of these conditions, from the bacterial standpoint, involves the principles elucidated above. It was stated in the preceding paragraphs that not only do the *types* of bacteria change with a change of diet on the part of the host, but also that certain bacteria have the property within limits of accommodating their metabolism now to a protein, now to a carbohydrate regimen. These latter organisms, then, are facultative in their metabolism. This change in metabolism to meet dietary requirements is a very fundamental and important characteristic of many bacteria, and inasmuch as it plays a prominent rôle in the problems of intestinal therapy which are concerned with the activity of bacteria, it will be discussed in some detail.

A few examples will first be cited to indicate the effect which this accommodation of metabolism has on the host in which such bacteria may be living.

Dr. Theobald Smith has shown, in his classical researches on the production of diphtheria toxin in broth, that the presence or absence of fermentable sugar plays an important part. If utilizable carbohydrate is present in the medium in which the bacilli are growing, the organisms will attack the sugar in preference to the protein; if there is an excess of sugar, so that the bacilli form enough acid to prevent further growth before it is exhausted, very little toxin, comparatively is produced. If there is a lesser amount of sugar (0.2 per cent. or less), merely enough to cause the bacilli to grow well, this sugar is soon used up, and then the bacteria attack the protein vigorously and there is a simultaneous increase in the toxin production.

(In this discussion, no attempt is made to explain the origin or composition of the toxin other than to call attention to the fact that it is formed under the conditions stated in media containing protein, or protein decomposition products, and that the presence of more than minimal amounts of sugar in these media is sufficient to seriously inhibit its formation. The fact that toxin is apparently formed in appreciable amounts from such simple organic compounds as salts of aspartic acid has nothing to do with the problem under discussion, although it is very probable that even in these so-called synthetic media, the presence of sugar would act in precisely the same manner as it does in the more complex proteins.)

A certain minimal amount of sugar appears to be essential for the formation of a potent toxin, and Dr. Smith has suggested that one, or both, of two factors may explain this phenomenon. Either this small amount of sugar is an essential component of the food of the bacteria, or the slight amount of acid formed by the fermentation of this sugar prevents the accumulation of too much alkali until the toxin formation has progressed to a very considerable degree. It is not improbable that both factors are concerned in the process.

According to unpublished investigations made by Dr. Smith, the same phenomenon is exhibited by the gas bacillus (*Bact. welchii*). This organism, so Dr. Smith tells me, produces a toxic substance when it is grown in fermented (sugar-free) broth containing sterile tissue, but this toxic substance is not formed if the same organisms are grown in unfermented broth, with tissue.

Many other organisms act in precisely the same manner when they are placed in media containing sugar; the presence of the sugar appears to prevent the breakdown of protein, at least in any considerable quantities. Attention was called in a preceding paragraph to the fact that there was in the intestinal tracts of mammals and man a group of facultative bacteria which could accommodate their metabolism to either a protein or a carbohydrate regimen. These organisms act in the same general manner as the diphtheria, tetanus and gas bacillus under similar conditions.

Bacillus coli is a well-known example of this group, and inasmuch as it is an organism of great importance in the intestinal tract, it will serve admirably for an example. If this organism is grown in broth containing an excess of utilizable sugar on the one hand, and in broth of precisely the same composition and reaction, but without the sugar on the other, it will be found that the chemical products formed in the two media will be widely different in composition. In dextrose broth, for example, the odor after an incubation of a week will be agreeable, the reaction acid, and in addition to the gaseous products CO_2 and H_2, lactic, and smaller amounts of succinic and acetic acids will be found. It will be observed that products of protein decomposition are practically absent, on the other hand. This growth is therefore a fermentative process and not a proteolysis; merely enough protein has been metabolized to meet the nitrogen requirements of the bacilli.

In the broth containing no sugar, on the contrary, but of otherwise the same composition (plain nutrient broth), the odor will be found to be disagreeable, the reaction strongly alkaline and in addition, indol, skatol, aromatic oxyacids and other products of protein putrefaction will be present in considerable amounts. This is therefore a typical putrefaction.

The organisms mentioned above, then, diphtheria, tetanus, gas and colon bacilli, all react in a perfectly definite manner when grown in media with and without fermentable carbohydrate. If carbohydrate is present, these organisms form acid products which are non-toxic, while they attack protein vigorously in the absence of sugar, elaborating products which are frequently more or less harmful to their host. (It should be stated parenthetically that by "attacking protein," as used in this connection, protein of various degrees of degradation from native proteins is meant.)

Two important and general properties of bacterial activity are illustrated by these experiments:

1. Fermentation takes precedence over putrefaction; that is, carbohydrate shields or spares protein from bacterial attack. The same generality holds in the metabolism of the human body; carbohydrate spares protein.

2. Toxic substances are not formed to any extent in media containing more than minimal amounts of utilizable carbohydrate, so long as there is enough carbohydrate for the bacteria to act on.

When we remember that bacterial toxins are, so far as we know at present, associated with the breakdown of protein, the significance of this shielding action of carbohydrate for protein becomes apparent.

In those cases referred to above as endogenous infections, that is, in which there is an overgrowth of bacteria of intestinal origin, the most noticeable, or at least most common, pathologic result is the slow absorption of putrefactive products, which not infrequently are the results of a too liberal protein diet.

Metchnikoff has recognized this condition and his lactic acid therapy is designed to correct the trouble. His treatment consists essentially in cutting down the protein of the diet, pushing up the sugar, and administering lactic acid bacilli by mouth. He explained the beneficial results which frequently attended this treat-

ment by the antagonism of his lactic acid bacteria to the putrefactive organisms in the intestinal tract. While his lactic acid bacilli do, as a matter of fact, act in a salutary manner, it must be remembered that there are also present in the intestinal tracts of most individuals normal lactic acid bacilli which also produce lactic acid. These latter organisms appear to thrive best in the large intestine, while the artificial cultures seem to find conditions most favorable for their growth in the small intestine. Hence, the normal lactic acid bacilli, fermenting the sugar which is intentionally added to the diet of the host, antagonize the putrefactive bacteria on their own grounds. Not only do the normal lactic acid bacilli proliferate under these conditions, but the organisms which are producing the bulk of the putrefactive products, at least indol and skatol, change their metabolism under the new conditions, and become fermentative instead of putrefactive in character. The indol and skatol are no longer formed under these conditions, and the condition of the patient appears to be improved. The colon and proteus bacilli, which are strong indol-formers, in other words, produce acids instead of proteolytic products so long as sugar is available for their use.

The same principle of changing the metabolism of bacteria may be made use of in the second group of intestinal infections, those of exogenous origin. The best-known examples of such infections are those of typhoid, cholera and dysentery. The latter only will be discussed, because the attempt has been made to utilize the principles outlined above in the treatment of this disease in infants. The Shiga type of *B. dysenteriæ* produces a powerful extracellular toxin, and the work of recent observers would indicate that it is formed only in broth having a strongly alkaline reaction. From what has gone before, it is obvious that this condition of a strongly alkaline reaction is realized only in the absence of fermentable sugar. It is equally true that the Shiga bacillus ferments dextrose, producing acid. It follows, therefore, that if this organism is fermenting dextrose it is not producing toxin, if our supposition is correct. The Flexner type of *B. dysenteriæ* agrees with the statements about the Shiga bacillus made above, except that this form does not produce an extracellular toxin. It does, however, elaborate an intracellular toxin apparently.

The intestinal flora of babies suffering from bacillary dysentery consists essentially of three organisms: *B. dysenteriæ* [Shiga, Flexner, or both], *B. coli*, and the streptococcus.

As a routine treatment, such babies are starved, and this starvation, together with the severe diarrhea, which is a feature of this disease, results in a very thorough cleaning out of the alimentary canal so far as food of any kind is concerned. This dysenteric flora, then, is living on the intestinal secretions in the absence of sugar (the sugar of the body is used up quickly, and the body then draws on its nitrogen to keep up the vital functions), and it is essentially putrefactive in nature. The dysentery bacilli are elaborating toxin, while the colon bacilli are forming putrefaction products, both of which must be harmful to the child. The colon bacillus aids the dysentery bacillus, and the host has to detoxicate such putrefactive products as are absorbed by the alimentary canal in the liver, and excrete them through the kidneys. This throws an additional strain on an already weakened organism.

The principle involved in the treatment of bacillary dysentery, from the point of view of the bacteria concerned in the morbid process, is to feed carbohydrate. This carbohydrate is intended primarily to change the metabolism of the organisms in the lumen of the intestinal canal from proteolytic to fermentative bacteria. These bacteria, therefore, so long as there is sugar present which they can utilize, no longer produce toxins and putrefactive products from the protein of the intestinal contents, but acids instead. The patient is at the same time obtaining a readily utilizable food with a minimal expenditure of digestive energy. Another advantage gained by this procedure is the readiness with which the baby takes the requisite amount of water. Experience has shown that it is very difficult to make infants take water, but the addition of the sugar makes it more palatable. This method of introducing fluid does away with the disagreeable necessity for saline infusions which are often a source of trouble.

It is not a matter of indifference which sugar is fed to these patients. Lactose appears to be the most advantageous for several reasons. In the first place, it is a sugar peculiar to mammals, and not many bacteria other than those normally present in the alimentary canal can utilize it. Consequently, if the digestion of the patient is weakened to such an extent that it can not even hydrolyze lactose, there is no great harm done because the exogenous bacteria cannot use the lactose as such. Again, lactose is physiologically the most easily assimilable carbohydrate.

If, then, lactose is fed to dysentery babies by mouth in small, often repeated doses, the bacterial changes following its administration are as follows: The colon bacilli and other lactose-fermenting organisms of the intestinal tract attack the sugar in preference to the nitrogenous substances, forming acids in place of putrefactive products. Lactic acid predominates among these acids, and this acid is apparently inimical to the development of the dysentery bacillus. The patient benefits in two ways from the change in metabolism of the colon bacillus—there is a diminished formation of putrefactive products, and in addition those dysentery bacilli in the lumen of the intestine are exposed to the lactic acid generated by the colon bacilli. Usually there are a few of the normal intestinal lactic acid bacilli left in the alimentary canal, and these too begin to proliferate and to form lactic acid; this increment in acid formation acts even more energetically in opposition to the dysentery bacilli.

Under these conditions the streptococcus tends to disappear, and this is a point of considerable importance, since the streptococcus frequently appears as the terminal infection in dysentery cases. The cause for this disappearance is at present unknown to me. It is a curious fact that one may recover cultures of these or similar cocci by growing the fecal mass in strongly alkaline broth (N/5 Na_2CO_3).

If the digestion of the patient is still active enough to break down the lactose, the dysentery bacilli themselves will become acid-formers instead of toxin-producers, because these bacilli can attack dextrose, which is one of the hydrolytic products of lactose. This applies principally to those bacilli which are found in the lumen of the alimentary canal; those in the mucosa would at first sight seem inaccessible, but the stream of sugar which is absorbed by the host passes through the mucosa, and in addition it is possible to restore the normal sugar content of the blood by transfusing dextrose. The sugar

is carried to all parts of the body, and it is not at all impossible that some of it may even reach the invasive organisms, and be utilized by them.

It is clearly not the purpose of this paper to discuss the factors other than the use of sugar in the treatment of these cases; all that is hoped for here is to present the development of the subject of intestinal bacteriology in so far as I have had a hand in it, and to show that these purely laboratory studies can be made use of in the therapeutics of the intestinal canal.

It is obvious that this general principle of fermentation taking precedence over putrefaction can be made use of in many instances, both medical and industrial, in which bacterial activity plays a rôle.

THE TREATMENT OF SUPPURATIVE OTITIS MEDIA (SCARLATINAL) BY BACTERIAL VACCINES (BACTERINS)*

BASED ON ONE HUNDRED CASES OF PATIENTS TREATED IN THE PHILADELPHIA HOSPITAL FOR CONTAGIOUS DISEASES, BUREAU OF HEALTH

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The treatment of various subacute and chronic infections by means of bacterial vaccines has been successful enough to offer encouragement as a practical therapeutic measure, and we undertook the treatment of suppurative otitis media by this means. Of the sequelæ of scarlet fever, otitis media is one of the most troublesome and dangerous, both to the patient and the public health in general. Of 2,537 patients received in the scarlet-fever hospital from June 1, 1907, to June 1, 1909, 308 patients, or 8.2 per cent., developed suppurative otitis media. The usual treatment is unsatisfactory in many respects; the duration of otitis media is frequently prolonged; the contagium of scarlet fever, whatever it may be, seems almost certainly present in ear discharges; the dismissal of a patient with such aural discharges is thus dangerous to public health; therefore any treatment which will cure these patients more quickly and more satisfactorily than the usual methods will be certainly most welcome. The treatment of these infections by bacterial vaccines is based on good reason, although mostly theoretical. The results have been fairly satisfactory when a good technic has been followed, so that we commenced this work with the realization that of all forms of treatment, this is one of scientific aspect, and that results must be given in an impartial and scientific manner; in other words, the report is a plain statement of facts, whether such be favorable or otherwise.

The theory of the action of bacterial vaccines as promulgated by Wright is well known to every one. He has demonstrated the presence of a substance in the blood which prepares organisms for phagocytosis. These substances, opsonins, are normally present in the blood in varying amounts. They can be increased by the administration of an emulsion of bacteria which have been killed by heat at the minimum degree of temperature (vaccine). If the offending organism itself can be secured and used in the preparation of the vaccine (autogenous), better results will follow. The opsonins are probably formed in part by connective tissue cells, both generally, and locally at the site of injection. This is the reason for selecting the area of administration as near the lesion as possible.

The present study is based on the treatment of one hundred cases, extending over a period of nine months. Otitis media is a condition offering good hope for success by vaccine treatment, because the condition is local; the offending organisms can usually be easily secured; the infection soon becomes subacute and chronic and the results of treatment can be readily observed. The onset of the disease is frequently most insidious; a large number of children do not complain at all, and the first indication of trouble is the presence of discharge. On the other hand, many adults and older children suffer considerable pain. In a series of 406 cases the discharge first appeared on the following days of the illness, reckoning from the day of onset of the scarlet fever:

Day of Illness	No. of Cases	Day of Illness	No. of Cases
1 to 5	27	20 to 35	81
5 to 10	97	35 to 49	35
10 to 20	155	49 to 84	11

Patients suffering with severe throat symptoms are most likely to develop suppurative otitis media by direct infection through the Eustachian tube. On the other hand, cases are apparently produced either by general blood infection or by the toxins of the disease.

The first question is that concerning the best time for commencing vaccine treatment of cases of otitis media. Certain it is that a proportion of patients will recover in a reasonable length of time if left alone or given simple local treatment. It is equally certain that a proportion continue discharging for a long period of time, it may be for the remainder of life, the soft parts and finally the osseous tissue being involved. Experience has demonstrated that it is not wise to commence too early, and it is equally bad practice to wait too long, because long-standing cases are likely to be more refractory to treatment and the mechanism of hearing may be considerably damaged. During the acme and early decline of scarlet fever the patient may be having considerable fever; he may be toxic enough without the addition of vaccine or be suffering with acute nephritis and its accompanying toxemia; finally the general condition may be so poor and the body defences so busy combating the toxic condition that the administration of vaccine will evoke no favorable response, but produce injury by a prolonged negative phase, during which the organisms work increasing havoc. We commenced vaccine treatment in our cases according to the following table, reckoning from the first day of the onset of the otitis media as indicated by the presence of discharge:

Time of Discharge	No. of Cases
Third to seventh day	6
Seventh to fourteenth day	33
Second to third week	21
Third to eighth week	28
Eighth to fourteenth week	10
Four years	1
Ten years	1

According to our experience the best results were secured, considering all things, when cases were reported on the third day of the discharge. This enables one to watch the patient for a day or so; take a culture; con-

* Read before the Annual Meeting of the American Public Health Association, Milwaukee, Sept. 5, 1910; also read before the Philadelphia County Medical Society, Nov. 23, 1910.

* For the sake of brevity references to the literature which appear in the author's reprints have been omitted in THE JOURNAL.

sume five or six days in isolating the organisms and preparing the vaccine. If at the end of this time the patient's general condition was fair and he was free of fever, nephritis and toxemia, a dose of vaccine was administered. If his condition was not favorable, the vaccine was put aside in a refrigerator. If at the end of ten days his condition warranted commencing the treatment, we did not use the first vaccine, for frequently a reculture will show a different organism or the presence of an additional offender. A reculture is made from the discharge and another vaccine prepared.

The following table is a list of the organisms isolated from cultures of the 100 cases. If the otitis media was bilateral a culture was taken from each ear. If two organisms were found, each was isolated and a separate vaccine prepared. When administering two vaccines to the same patient, the aggregate dose was that equalling the dose of one organism. The bacteriology was comparatively simple and isolation readily accomplished:

Staphylococcus aureus	was found alone in 14 cases
Staphylococcus albus	was found alone in 2 cases
Bacillus pseudodiphtheriæ	was found alone in 35 cases
Bacillus pyocyaneus	was found alone in 20 cases
Streptococcus pyogenes	was found alone in 4 cases
Staphylococcus aureus and *B. Pseudodiphtheriæ*	were found together in 9 cases
Streptococcus pyogenes and *B. Pseudodiphtheriæ*	were found together in 4 cases
Bacillus pyocyaneus and *B. Pseudodiphtheriæ*	were found together in 9 cases
Streptococcus pyogenes and *B. pyocyaneus*	were found together in 3 cases

If no improvement was noted after the third dose of vaccine, or if ten days elapsed before vaccine could be administered to a case after culture had been taken, a reculture was made and a new vaccine prepared. In many cases, an ear cultured three to four days after the onset of discharge will show the *Staphylococcus aureus*, while on reculture at a later date the *Bacillus pseudodiphtheriæ* will be found. Most of the long-standing cases yield *Bacillus pyocyaneus*, and repeated culturing can secure nothing else. The following table gives the list of organisms secured by recultures:

Bacillus pyocyaneus	was found alone in 20 cases
Bacillus pseudodiphtheriæ	was found alone in 6 cases
Staphylococcus aureus	was found alone in 2 cases
Bacillus pseudodiphtheriæ	was found in combination with *Streptococcus pyogenes*; once with *Bacillus pyocyaneus*, and twice with the *Staphylococcus aureus*.

Cases cultured on the third or fourth day of discharge show the *Staphylococcus aureus* in many instances. A vaccine prepared of this organism usually gives good results. A week or ten days later it is often replaced by the *Bacillus pseudodiphtheriæ*, or this organism is found in addition.

It may be well to add here a few words in explanation of the term "pseudodiphtheriæ." We are aware that many opinions exist on what should be thus named. We apply that term here to a solid type of diphtheria-like organism resembling some of the solid types of true diphtheria bacilli, but without virulence or toxicity when tested in a reliable manner by animal inoculation.

We have frequently encountered, isolated, and cultured a short, thick, solid bacillus having rounded ends, with slightly marked median band, characteristic of the *Bacillus hofmanni*. We could never foretell by microscopic examination alone whether solid types of diphtheria-like bacilli were or were not virulent, but relied on an animal test for such information. We believe that a true pseudodiphtheria bacillus exists which belongs to the family of diphtheria bacilli, but have never been able to recognize it with confidence by mere microscopic examination. Twenty-two of the cultures were tested by guinea-pig inoculation and found negative. Two additional cultures, isolated from discharging ears in the diphtheria wards, produced most virulent toxins. Therefore, we believe that the presence of diphtheria-like organisms in the ear can be determined by microscopic examination, but only an animal test can determine whether or not the organisms possess virulence and are a menace to public health. The presence of this organism in 57 per cent. of the cases shows its important position in the etiology of otitis media and its relation to diphtheria of the ear.

The *Bacillus pyocyaneus* was found in 20 per cent. of cases discharging for four weeks or longer. This organism is believed by many to be a practically harmless saprophyte, feeding on tissues killed by some other organism. In 10 per cent. of our cases this was found alone or in combination with some other organism as early as the third to fourteenth day of discharge. The results of its vaccine were satisfactory in these early cases, and while the administration of a vaccine prepared from this organism may have been merely coincident to a rapid cure, yet we cannot agree with those who claim its vaccine to be practically without effect, for we believe that it is at least worthy of trial. On the other hand, of the fifteen patients dismissed from the hospital with persistent discharging ears, thirteen gave this organism in pure culture and its vaccine did not produce favorable results.

All of the various groups of streptococci are here listed under one name. A vaccine prepared from this organism gave quick and favorable results each time. It was found alone or in combination in 11 per cent. of cases.

We prepared and used autogenous vaccines for every case except one. This case was one of ten years' standing, following measles. The patient was admitted with scarlet fever and recovered in a satisfactory manner. He was detained, however, on account of the discharging ears, for although the otitis did not develop during the course of scarlet fever, yet his ear discharge was most likely infected, and therefore it was considered dangerous to dismiss the patient. Repeated cultures yielded the *Bacillus pyocyaneus*. A vaccine produced some improvement. Then a stock culture of *Staphylococcus aureus* and *Bacillus pseudodiphtheriæ* was tried. Granulation was rapid and all discharge ceased after the fourth dose. His ears were dry for ten days before dismissal from the hospital.

The question of dosage has always been one of paramount importance in vaccine therapy. Wright's technic for determining the opsonic index was received as being an exact guide to amount and frequency of dosage. There is considerable evidence to show that its practical value has been overestimated, and while in skilful and exact hands its results are of aid, yet the procedure consumes so much time and its results are apt to be so misleading, unless performed in an exact, patient manner, that it can be well dispensed with in ordinary practical work. We learned to rely more and more on the clinical aspect of our patients. It is very important to avoid producing a prolonged negative phase, or giving a dose of vaccine during this period. Careful opsonic work has demonstrated what usually occurs after the administration of a vaccine and the importance of avoiding this phase of the reaction. We have frequently seen the harmful effects of too large a dose at too close an interval between doses. The tendency is to give smaller doses with longer intervals between each. As a rule the sicker and weaker the patient, the smaller the dose. In

this work no fixed rules of dosage were used. Each case is a law unto itself. Dosage must be controlled in each patient according to temperature reaction and the local and general condition of the patient. The initial dose for the average patient 10 years of age was about as follows:

Staphylococcus aureus and albus,	15 to 40 millions
Bacillus pseudodiphtheriæ,	30 to 50 millions
Streptococcus pyogenes,	5 to 10 millions
Bacillus pyocyaneus,	50 to 80 millions

It is well to give a small dose at first and note the extent of the reaction. This reaction will be a good guide for determining the size of the succeeding dose. Doses were repeated every five to eight days. In our earlier cases they were given at shorter intervals, but results did not warrant the continuance of the practice. Succeeding doses were increased by five to ten millions if necessary. Following the administration, the majority of patients develop a temperature varying from 100 to 102 F. in about eight hours, gradually reaching normal in twenty-four to thirty-six hours. We have seen the temperature fall a degree or so to subnormal after an injection, reaching normal at the end of twenty-four hours. A second dose should not produce so much fever, and when doses are properly selected, the temperature reactions are quite conspicuous, each being lower than the preceding, as the patient's system is charged with an increasing quantity of opsonins, until finally no fever follows the administration. The local reaction is usually quite typical. If one has succeeded in securing the organisms producing the infection its vaccine will produce an increased amount of discharge for twenty-four to thirty-six hours. This is of good prognostic value. The discharge may gradually diminish in amount or cease suddenly and entirely. The general improvement in health in many of the patients was indeed striking. It is difficult to decide what proportion of good may be ascribed to the vaccine, but certain it is that improvement in nutrition so frequently followed the administration of the vaccine that one was forced to notice the relation. It may be that the injection of the vaccine served as a stimulus to the increased production of receptors which were used in anchoring additional nutritive material. In addition to the temperature and local reaction the patient, if old enough to express himself, will sometimes complain of lassitude, sleepiness, slight headache, etc. We have been fortunate enough to escape abscess formation. Streptococcus vaccine in every case produced a local reaction of redness and pain at the site of infection, which passed away in twenty-four hours with rest and evaporating lotions.

As in all hypodermatic medication, it is necessary to use an accurate syringe. This is especially true in vaccine work because wasting even a few drops alters the size of the dose to an extent difficult to compute. We gave the injection in the loose areolar tissue over one of the scapulæ. Since children frequently sleep on the abdomen we made it a practice to administer the vaccine at night when the part could be cleansed and when the injection was given frequently without awakening the child. The temperature, pulse and respiration of the patients were taken every four hours for the first twenty-four hours, and longer, if necessary, until the normal was reached. Notes were made every other day on the progress of the case.

During the administration of vaccines every other form of treatment was suspended. Syringing the ears was especially interdicted, for unless it is performed in a skilful manner, and with a proper syringe, more harm than good may result by reinfection of healthy parts. Four of our cases were persistently refractory for over three weeks, when it was learned that the nurse in charge was syringing out the ears with great zeal through an oversight, not having been instructed to stop all treatment. These cases rapidly progressed in a favorable manner to ultimate cure when this local treatment was stopped. No treatment is given, except wiping away the secretions when discharged over the neck and cheek. The ordinary cotton plug in the canal frequently does no more than dam back the secretions. Once or twice a day the external auditory canal is gently cleansed with cotton and applicator to avoid inspissation and consequent plugging.

The following table shows the number of doses given to secure a favorable result, or convince one that vaccines were giving no aid:

16 patients	received	1 dose	(13 cured; 3 died).
11 patients	received	2 doses	(10 cured; 1 improved).
15 patients	received	3 doses	(14 cured; 1 improved).
10 patients	received	4 doses	(10 cured).
10 patients	received	5 doses	(9 cured; 1 improved).
9 patients	received	6 doses	(8 cured; 1 not improved).
4 patients	received	7 doses	(4 cured).
4 patients	received	8 doses	(2 cured; 1 improved; 1 not improved).
3 patients	received	9 doses	(3 cured).
3 patients	received	10 doses	(2 cured; 1 improved).
4 patients	received	11 doses	(1 cured; 3 improved).
3 patients	received	12 doses	(2 cured; 1 improved).
3 patients	received	14 doses	(1 cured; 1 improved; 1 not improved).
1 patient	received	15 doses	(1 not improved).
1 patient	received	16 doses	(1 cured).
1 patient	received	17 doses	(1 cured).
2 patients	received	18 doses	(2 cured).

If the otitis has been present for a considerable length of time the bony parts are affected, and consequently the time required for cure will likely be longer. Even after the infection has subsided a discharge of necrotic material or secretions of granulation may be present for some time. On the other hand, there are cases in which suppuration will progress most actively despite all one may do. These cases have been repeatedly cultured, and as many as six vaccines prepared for each case but with no beneficial result. All such patients were in a poor physical condition.

It is a difficult matter to decide when an ear is cured. Often the discharge may cease entirely for a few days or a week, and then commence again. It is customary in the Philadelphia Hospital for Contagious Diseases to retain all such patients until the ears have been constantly "dry" for a week or ten days. If the time required for such a result reaches four months the patient is discharged, for while the ears may be suppurating, they are not likely to be contagious. Most of the cases under vaccine treatment progress gradually in a favorable manner, although many stop discharging quite abruptly with one or two doses of vaccine. It is necessary to guard against supposing an ear free of discharge when cerumen is plugging a perforation of the tympanum. The longer the time one can observe these patients after cessation of discharge the better will one be enabled to judge of what the ultimate outcome will be. Practically all patients with scarlet fever are detained in the hospital for at least five to six weeks. At the expiration of this time parents are very anxious to have their children returned, and if they are detained longer, as in cases of otitis media, this anxiety is often under high pressure.

We have always endeavored to watch a case for at least ten days after all discharge has ceased. Most of our cases were from the poorer crowded sections of the city where it is a very difficult matter to keep trace of them after dismissal from the hospital. The final test of value of any form of treatment can be judged only

by results after a long lapse of time. The following table gives the number of days in which cases were "dry" preceding discharge from the hospital:

4 to 10 days	37 cases
10 to 18 days	27 cases
18 to 28 days	11 cases
28 to 42 days	6 cases
3 months	1 case

Each case was thoroughly examined by Dr. Woody, chief resident physician of the hospital, three times before dismissal.

As already stated, the real value of the vaccine treatment in these cases of otitis media can be determined only at a much later data. However no "return" cases have been traced either directly or remotely to any of these patients. At the present we can estimate the value of the vaccine treatment by considering the time required to accomplish a cure under the usual form of treatment and that required under vaccines; also by the number of patients dismissed at the expiration of three to four months with ears still discharging. To determine this the records of the hospital have been studied and the results tabulated (Woody):

The table is very important because it compares the percentage of patients who were cured under the usual treatment with those cured under vaccine treatment during an equal number of days:

Number of cases admitted to Scarlet-Fever Hospital from June 1, 1907, to June 1, 1909, 2,537.

Number of cases of suppurative otitis media developing during this period, 308, or 8.2 per cent.

	Usual Treatment.	Vaccine Treatment.
1 to 10 days	3.24 % cured	22 % cured
10 to 20 days	7.47 % cured	22 % cured
20 to 30 days	11.69 % cured	21 % cured
30 to 40 days	17.86 % cured	8 % cured
40 to 60 days	19.15 % cured	4 % cured
60 to 90 days	9.41 % cured	4 % cured
90 to 120 days	2.28 % cured	1 % cured
Dismissed with ears still discharging	13.96 %	15 %
Died ears still discharging	14.94 %	3 %

This table demonstrates that under vaccine treatment 21.99 per cent. of cases are cured in from one to thirty days as compared to 7.46 per cent. under usual treatment in the same period of time.

Of the fifteen patients receiving vaccine treatment and dismissed with ears still discharging, one was "running" six weeks, and five from twelve to fourteen weeks before vaccine treatment began:

4 received vaccine treatment on fifth to twelfth day of discharge.
5 received vaccine treatment on fourteenth to twenty-eighth day of discharge.
1 received vaccine treatment during sixth week of discharge.
5 received vaccine treatment during twelfth to fourteenth week of discharge.

It is reasonable to suppose that if vaccine treatment had been given to the six patients before the expiration of six weeks and longer, more favorable results would have been obtained.

No deductions can be drawn from the number of patients succumbing with ears discharging. Most of these deaths occurred during the year 1907-1908 when scarlet fever was unusually severe; during 1908-1909, the disease was quite mild, while during 1909-1910, scarlet fever was of moderate severity. In our series of 100 cases the three deaths were caused by the following conditions: two by acute nephritis and one by general toxemia of scarlet fever.

During this work, the following were considered as contra-indications to the administration of vaccines:

1. Cases of continued fever. This condition is frequently a part of the scarlatinal infection. The typhoid type of scarlet fever comes under this category. Such cases are usually of poor vital resistance and vaccines are likely to do more harm than good. However, in selected cases, by means of small cautious doses, the local condition may be held in abeyance or even cured.

2. Acute nephritis. This condition means decreased elimination and retention of toxins. To administer vaccine means adding fuel to a fire. Such cases very frequently show increased activity of the local infection, indicating a general decrease in local and general resistance. It is a safe practice to wait for ten days or two weeks after the total disappearance of albumin from the urine before administering vaccine.

3. The occurrence of other infections means cessation of vaccine treatment. Thus, a patient may develop measles, chicken-pox, diphtheria, etc. Our work was once practically stopped on account of vaccination during a small-pox epidemic, during which time it was found unwise to whip up a well-worked horse.

TECHNIC

The technic employed was essentially that used by Wright and his co-workers. We never administer a mixed vaccine but isolate each organism and make up standardized vaccines from each. As short a time as possible was employed in securing isolation for fear that frequent subculturing would lower the virulence of the organism. It is also necessary to kill the culture at the minimum degree of temperature at the minimum length of time to secure the most potent vaccines. Briefly, it is as follows:

The ear is cleansed of the excess of secretion by means of probe and cotton and then a culture is made in sterile bouillon by means of a sterile swab. This culture is then plated out by inoculating the water of condensation in successive large tubes of plain or gelatin-agar. This water is run once over the surface of the media. In twenty-four hours the colonies are well developed and usually well isolated. They are examined microscopically and subcultures made on large tubes or bottles of slanted agar. If the streptococcus was being cultured, glucose-gelatin-agar was used. At the end of twenty-four hours, the culture is examined microscopically for purity and morphologic characteristics of the organisms; subcultures are made on various media, and in case a diphtheria-like bacillus is present, a toxin is prepared by growing for forty-eight hours in alkaline (0.5 per cent phenolphthalein) bouillon to which is added 1 per cent. glucose. This is administered unfiltered, subcutaneously into the abdominal wall of a 250-gm. guinea-pig, the dose being 0.5 per cent. of the body-weight expressed in cubic centimeters. The cultures are washed off the surface of the medium with sterile normal salt solution, diluted with the same solution and counted by comparing the number of bacteria with human blood as a standard. For staining these slides it is very essential that the stain employed produce no precipitate. We used, and can warmly endorse, the method consisting of fixation for five minutes in a saturated solution of bichlorid of mercury, followed by washing and immersion in a solution of carbol-thionin for a few minutes. After counting, the emulsion is sealed in a drawn out test tube and heated in a water bath, fully immersed, for one hour at 58 to 60 C., never over 60. The tubes are then opened and cultures made on slanted agar.

The tubes are then sealed again and put aside in the refrigerator for twenty-four hours to await the outcome of the cultures. Streptococcic vaccine is always allowed forty-eight to seventy-two hours in determining whether it be sterile, because this organism grows so slowly. If sterile, the tubes are opened and the proper dose prepared by diluting with sterile salt solution, with compound solution of cresol added as a preservative. The dose is put up in amounts of one cubic centimeter in sterile ampoules or in a sterile stock bottle. When not in use they are stored away in a cool place.

CONCLUSIONS

We have tentatively drawn the following conclusions:

1. The best time, all things considered, for commencing vaccine treatment in cases of otitis media, is from the eighth to the sixteenth day of the discharge.

2. Continued high fever, nephritis, toxemia and various intercurrent affections are contra-indications to the administration of vaccines.

3. Under vaccine treatment, three times as many patients are cured within thirty days and permitted to go home as under the usual treatment. This means that the average residence of a patient in the hospital has been considerably decreased.

4. In general, cases of otitis media offer a fruitful and encouraging field for the employment of vaccine therapy.

MULTIPLE MYELOMA WITH ALBUMOSURIA

REPORT OF A CASE

JOSEPH M. KING, M.D.

LOS ANGELES

The first recorded case of albumose in considerable amount in the urine with accompanying destructive lesion of bone was reported by Henry Bence-Jones[1] of London, before the Royal Society of London, in 1874.

The urine was from a male patient, a grocer, aged 45, who dated his illness from a violent strain in vaulting from a cavern, accompanied at the time by violent pain in the chest, and who, after sixteen months' illness, died. This case occurred in the practice of a Dr. MacIntire. At the autopsy Bence-Jones remarked, "I saw that the bony structure of the ribs was cut with the greatest ease and the bodies of the vertebræ were capable of being sliced off with a knife." Microscopically, their interior presented "granular matter, oil globules, nucleated cells, constituting the bulk of the mass—a few caudate cells and blood-disks extravasated largely among the other cells, and giving the red color to the gelatiniform mass."

The post-mortem diagnosis was "osteomalacia fragilis rubra."

But few cases were recognized and reported up to 1890. Since that time an increasing number of cases has been recognized, but the condition is still far from common.

A large number of names have been given to the condition, the one of multiple myeloma, now universally used, having been given to it by J. von Rustizky, in 1873,[2] who, however, regarded the condition as simply over-growth of the cell-elements of the bone-marrow.

It attacks the old rather than the young, occurring in males more often than females, and usually runs its course within two years. The condition is one of primary tumor formation taking place in the red marrow of the bones. It is, therefore, most apt to occur in the sternum, ribs, vertebræ, and skull, although the long bones are by no means exempt. It usually appears simultaneously in several foci, often in bones widely separated. The growth resembles a small round-celled or lymphosarcoma, but differs from it in very seldom forming metastases, only one or two cases being reported,[3] and in not containing spindle or giant-cells. It forms soft, reddish masses, with yellowish or grayish streaks, is homogeneous in appearance, not sharply defined from the surrounding tissue, and replaces the normal red bone-marrow. The cortex of the bone is also usually very much thinned and bulging or broken through, and the tumor forms nodular masses on the surface or may even invade the neighboring soft parts by continuity of growth. Spontaneous fractures not infrequently occur. If the vertebræ are involved, curvature of the spine or kyphosis frequently occurs, with its accompanying pressure symptoms. In pure cases the affection is confined to the bony system, no enlargement of the spleen or liver, or involvement of the lymph glands taking place. In a considerable number of the reported cases enlargement of the spleen or liver or both has been noted.

The blood is markedly affected, resembling grave forms of secondary anemia, or a pernicious anemia. Leukocytosis is not common.

The best descriptions of the histologic structure are those of Henry A. Christian,[4] W. G. MacCallum,[5] and James Homer Wright.[6]

The tumor masses are very cellular in type, with a scanty, loose, wide-meshed connective tissue stroma, usually composed of very fine fibrils, in which loosely lie round or oval cells, sometimes polygonal in shape and interspersed with numerous large and imperfectly defined blood-vessels. Often many red blood-cells are seen scattered among the cells. These tumor cells are from 8 to 12 microns in length by 4 to 10 microns in width. The cell outline may be sharp, but there is not often a definite cell-membrane, and the cells are made up of a very finely granular slightly basophilic protoplasm, in which lies a rather large round or oval vesicular nucleus, often eccentrically placed, having a definite nuclear membrane. Two or three nuclei, each of the vesicular type, are not uncommon. The nucleus contains a chromatin network with chromatin masses usually peripherally placed. It also contains a nucleolus. No specific granulations are found. Much discussion has arisen as to whether these cells more nearly resemble and spring from the premyelocytes, or from the bone-marrow plasma-cells. The best evidence at hand seems to indicate that they are of plasma-cell origin.

In 1901 Hamburger[7] developed the clinical manifestations of the condition.

The chief clinical features are attacks of pain referred to some portion of the osseous system, often with the formation later of visible or palpable tumors, cachexia, and the presence of Bence-Jones albumose in the urine. Frequently the patient's first complaint is of rheumatoid symptoms; and stiffness of the small joints, as of the hands, may develop. Dull pain over the hips, patella, or vertebral column is also noted among the early symptoms, or perhaps sharp pain over a rib or the chest is the initial symptom, or the first complaint is of a seeming lumbago or sciatica. These painful periods often alternate with periods of comparative comfort, but any unusual muscular exertion or contusion of affected parts is liable to call forth a return of the pain. While pain is a predominant feature in many cases, in others it is entirely absent. As the disease progresses, visible changes in the bones are apt to appear. Bending of the vertebral column is common. The sternum also sometimes bends, and tumors on the ribs, sternum, cranium or about the joints are often present. Fractures, spontaneous, or caused by very slight injury, sometimes occur. In a considerable proportion of cases, no bone changes are demonstrable clinically. The *x*-ray may be a very great aid, showing rarefaction and thinning of the cortex of the bones, particularly the ribs, where a wavy outline may be made out.

1. Bence-Jones, H.: Phil. Tr. Roy. Soc., London, 1848, Part I, 55.
2. Von Rustizky, J.: Deutsch. Ztschr. f. Chir., 1873, iii, 162.
3. Tschistowitsch, T., and Kolessnikoff, H.: Virchow's Arch. f. path. Anat., 1909, cxcvii, 112.
4. Christian, H. A.: Tr. Assn. Am. Phys., 1907, xxii, 145; Boston Med. and Surg. Jour., 1908, clviii, No. 19, p. 617.
5. MacCallum, W. G.: Jour. Exper. Med., 1901, vi, 53.
6. Wright, James Homer: Tr. Assn. Am. Phys., 1900, xv, 137.
7. Hamburger, L. P.: Bull. Johns Hopkins Hosp., 1901, xii, 38.

With the progression of the disease the patient loses flesh and strength; the general health suffers; the appetite is poor; nausea sometimes occurs; and an anemia of the secondary type develops, gradually passing to a most severe type. Leukocytosis is not common, although it has been reported in some instances. In typical cases the spleen, liver, and lymph-glands are not enlarged.

The most distinctive sign, however, is to be found in the urine, in the presence of the Bence-Jones body, which is virtually diagnostic. It is not invariably present, but the exceptions are rare. As a rule it occurs early and persists until the end, although there may be marked remissions, and the percentage usually varies considerably from time to time. The amount of urine is usually increased, averaging about 2,000 c.c. daily, often slightly cloudy, very pale in color, either neutral or very slightly acid, and with a specific gravity averaging from 1,004 to 1,012. On applying Heller's test a white ring forms, and as the contained albumose is also thrown down by the Esbach reagent, it is often mistaken for ordinary albumin. When heated, however, it is found to become cloudy at from 50 to 60 C. This turbidity can be made to disappear by the addition of acetic acid; or by further heating to the boiling point it disappears in great part, to precipitate again on cooling. The urine usually gives a strong biuret reaction. Casts are seldom seen. Owing to the increased amount of urine passed, thirst is a rather common symptom. Peptonuria of slight degree is an accompaniment of many disorders, but the presence of albumose in so large amount as to alter the usual reactions of the urine is practically found only in distinctive lesions of bone, and then only in that particular lesion termed multiple myeloma. The percentage present in the urine varies greatly, from 0.25 of 1 per cent to 6.90 per cent., which high amount was reached in Bence-Jones' famous case. Its origin is unknown, although Weber[8] and others regard the bone-marrow as the seat of its production. It is often accompanied in the urine by traces of albumin. No other changes are commonly present.

The heart sounds may be accompanied by hemic murmurs, and while the condition does not usually give rise to pathologic changes in its musculature, attacks of angina have been reported in several cases.

Chilly sensations, fever and sweats and slight jaundice occur in some cases, but they seem to be the accompaniments of the rapid destruction of blood and blood-forming tissue, and not to be in any sense distinctive of this condition. So also, and from the same causes, serous effusions may occur.

If no demonstrable lesion is found in the bones, the physical examination is usually negative.

The diagnosis may be difficult, particularly if the Bence-Jones body, which is almost diagnostic, is absent.

Weber[8] gives a careful differentiation. Osteomalacia differs by more often attacking women during the child-bearing period, affecting chiefly the bones of the pelvis and lower extremities, giving rise to great deformity and bending of the bones, but not so frequently to spontaneous fractures.

Caries of the spinal column gives a more distinctly angular kyphosis, the ribs are not likely to be simultaneously affected, and the anemia is seldom so marked.

The presence of obvious bone disease, a leukocytosis of any degree, or of albumose in the urine, serves to distinguish the condition from pernicious anemia. Furthermore, the superficial fat is not well preserved, nor is there a lemon-yellow cast to the skin. From nephritis it is distinguished by a sufficiently careful examination of the urine.

The prognosis is bad, the patients having died in all recorded cases, generally within two years, although one patient is reported as having lived seven years from the first symptoms.

Treatment seems unavailing. Arsenic and the *x*-rays have been used. Only symptomatic treatment seems to be of any value.

The following case, while not a pure case of myeloma, in that it had a considerable leukocytosis together with hyperplasia of the spleen and liver, is yet to be classed among those of this tumor.

History.—E. J. A., male, aged 60, married, born in Canada of English parentage, a liveryman by occupation, first consulted me July 12, 1910, complaining of great weakness with inability to stand on his feet, with numbness in his legs, shortness of breath on exertion, fulness of the stomach after eating, and somewhat frequent urination. He had a wife, son and daughter living and in good health. His father died at 69, after a nine weeks' sickness of "paralysis of the lower limbs." His mother died at 88. One brother died in babyhood, a sister died of typhoid at 28, and two sisters, aged, respectively, 63 and 58, were living and in good health.

The habits of the patient were excellent. He had never had any venereal diseases, used no tobacco and only very occasionally took a glass or two of beer. He had suffered from the diseases of childhood, and stated that he had had typhoid fever three times, the last twenty years previously. In 1898 he was laid up three months with lumbago and "nervous prostration," but had fully recovered, and had been in perfect health for years. He gave no history of malaria or injury in the splenic region or elsewhere. He had suffered from an indefinite stomach trouble for some time. In September, 1909, he contracted what he thought was a severe bronchitis, with much cough and expectoration, which lasted for about three months, and reduced the patient somewhat in weight and considerably in strength. He at length recovered, however, and about Christmas felt fairly well.

In January, 1910, a sharp pain came on at the costal margin on both sides, made worse by exertion, lifting, etc., but especially by raising the arms. This attack lasted about six weeks. From this the patient did not fully recover; he never regained his normal strength. He had no fever at any time. This weakness increased, and about May 1 a dull pain came in the back, with numbness in the legs and inability to stand. Shortness of breath on exertion appeared about the same time and gradually increased. He did not now have any sharp pain, his appetite became poorer and he had distress in the epigastrium after eating. He gradually lost weight and strength, but no other symptoms developed prior to my examination on July 12.

Examination.—This revealed a man about 5 feet 10 inches tall, weighing 140 pounds, of large frame and much emaciated. He looked anemic, and the mucous membranes were very pale. The superficial fat was not well retained; there was no yellowness of the sclera. No cervical pulsation was noted, but the femorals were throbbing. No enlarged glands were noted. The pulse was not rapid, was very regular, but collapsing in quality. No abnormality was noted in the lungs. The area of cardiac dulness was not increased; the apex-beat could not be seen or felt, and the sounds were very weak. No murmurs were heard. The patient was tender in the upper part of the abdomen, and on examination it was found that the liver was palpable for 1½ to 2 inches below the costal margin, and that the spleen extended to the level of the umbilicus and the left mammillary line. When the patient arose in bed he held the spine rigid, as he also did in bending. No error in alignment of the vertebræ or tenderness on percussion was present. The pupils reacted normally to light and accommodation. The knee-jerks were lost, and most of the other deep reflexes of the body were feeble. Romberg's symptom was not present. The

8. Webster, F. P.: Am. Jour. Med. Sc., 1903, cxxvi, 644.

patient reeled and complained of pain in the back when walking. He was very weak. Temperature was normal. The patient had at this time no cough or expectoration. Tuberculin tests were negative.

The blood showed hemoglobin, 20 per cent. (Dare); reds, 1,284,000; whites, 19,000. Stained specimens showed some poikilocytosis. No megalocytes were present, although there was some anisocytosis. Most of the cells looked small. Many normoblasts and some megaloblasts were seen, the latter showing all degrees of polychromatophilia. Some were absolutely basophilic.

A differential count showed polynuclears 23.5 per cent., small lymphocytes 50 per cent., large lymphocytes and transitionals and large mononuclears 21.5 per cent., eosinophils 3 per cent., basophils 2 per cent. For each 100 white cells there were sixteen nucleated reds, thus giving 3,040 nucleated red cells per cubic millimeter. Of these about 75 per cent. were normoblasts and 25 per cent. megaloblasts.

Several careful examinations of the patient's blood were made at intervals, but no marked change from this description occurred.

It was noted that the patient was passing large amounts of urine, a symptom of which he had complained, and on measuring, it was found to amount to about 2,000 c.c. daily. This was usually slightly cloudy, very pale, for the first week or ten days of observation slightly greenish in color, later becoming pale yellow. Its specific gravity was always about 1,008. It was very slightly acid in reaction. No serum albumin or sugar was present. When heated to about 56 C., however, it became opaque with the formation of a flocculent precipitate. This could be dissolved by the addition of acetic acid; if heated to the boiling point, it almost cleared, to again become very cloudy on cooling. When measured with an Esbach albuminometer this albumose was found to amount to 2 gm. to the liter. This Bence-Jones body varied considerably in amount, but was never absent from the urine during the remaining life of the patient, usually from 1 to 2 gm. to the liter. The urine was also found to contain enormous amounts of indican, and as the taking of methylene blue or other drugs, which might cause the urine to become green, could be absolutely eliminated, the color was supposed to be caused by the excessive excretion of this substance. It also blackened the precipitate of albumose on boiling. After passing the urine through the centrifuge a few hyaline casts could usually be found. After the discovery of the Bence-Jones body a very careful examination of the patient's bones was made, but nothing whatever could be detected, except a slight tenderness on percussion over the lower part of the sternum.

This condition continued without much change, except ever-increasing weakness, until the patient's death on July 28, due to his extreme anemia.

Necropsy.—This was performed nine hours after death. It revealed an emaciated man, about 60 years of age, 5 feet 10 inches tall, weighing about 125 pounds. There was no livor of the dependent parts. The superficial fat was not well retained. The cutaneous surfaces were very pale, but not jaundiced. The muscles of the abdomen and thorax were apparently normal. The cut surfaces of the costal cartilages appeared much whiter than usual. The sternum proved very fragile, and was broken twice in the attempt to remove it. There were slight recent adhesions in the right pleural cavity, but no fluid. The left pleural cavity was normal, as were also the lungs, with the exception of some hypostatic congestion at the bases. When the lungs were raised out of the chest the ribs were noted to have a wavy surface, caused by masses varying the size of from a pea to that of an almond. These masses were present on practically every rib, and looked as though the cortex had been bulged out in spots. The cortex was not broken anywhere. The ribs were very fragile and easily broken, and the sternum and ribs were easily cut through, showing a wavy outline, with the cortex very much thinned, and the medullary portion made up of a soft, moist, dark red tissue. This was continuous throughout the sternum, but alternating in the ribs with areas of grayish marrow, into which the reddish tissue insensibly merged. Examination of the right femur showed it to be normal. The bodies of the vertebræ were not sawn through, nor was the skull-cap removed. The pericardium was normal. The heart was normal in size, with normal endocardium and valves. The myocardium, however, showed fatty degeneration.

The liver was much enlarged, reaching almost to the level of the umbilicus. The gall-bladder was distended and fixed by firm adhesions to the liver. It could be emptied into the bowel by gentle pressure. No stones were present.

The mesentery of the transverse colon was firmly adherent to the under surface of the liver. On section, the liver was softer and paler than normal.

The spleen, which was very soft, measured 8 by 5½ by 2¼ inches, and weighed about 3¼ pounds, and had the appearance of a leukemic spleen.

The small intestines seemed very much contracted. No abnormalities were noted in their walls, and no ulcerations were present. With the exception of fatty degenerative changes, all the other abdominal organs were normal. None of the lymph-glands of the body were enlarged.

A section of rib, examined by Dr. Stanley P. Black, revealed the histologic structure to be practically that described by Christian.

AN EMERGENCY CULTURE MEDIUM FOR USE IN PRACTICE

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In general practice there are repeated demands for a culture medium which is, at the same time, cheap and easily prepared from the materials at hand. This is especially true when the physician desires to grow bacteria for the preparation of bacterial vaccines. The usual culture media are expensive and difficult to obtain, the apparatus necessary for their preparation is extensive, and the technic of preparation is long and tedious. Therefore, the demand for a special emergency medium is great.

Bacteria grow on ordinary artificial media under unnatural conditions and their character is often quickly changed by the new ingredients of the media. Some species cannot be grown without special care; this is true of the pneumococcus, the streptococcus and the gonococcus. These cocci do not grow readily; it is difficult to keep them alive, and their virulence is often lost after two days' culture, unless they are surrounded by the nourishment afforded by human secretions. The problem is to supply them with conditions as nearly as possible like those which they find in the human subject.

I experimented for several years with agar-agar, Loeffler's blood-serum, bouillon, milk and potato, and noted the effects of various salts and chemicals in solution on the growth of bacteria. I also followed the experimental work done in the physiologic laboratories: the use of normal salt solution to preserve skin grafts; the work of Dr. Loeb at the University of Chicago with amebas in salt solution; the power of salt solution to preserve the life of the cells in the blood-vessels and heart of the frog, and finally the suspension of the leukocytes in normal saline solution in performing the various experiments in determining the opsonic index. These studies led me to think that normal salt solution might keep bacteria alive. I found that if sufficient material from the site of the infection were added to 2 drams of normal salt solution, in a sterile bottle or test-tube, and incubated at body temperature, many of the ordinary bacteria could be grown and kept alive for weeks and even months, and that in some strains the virulence seemed to be maintained longer than when grown on the ordinary media.

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This method can be used to transfer culture material from the office of the general practitioner to his laboratory or to that of the laboratory specialist, and will be found of distinct advantage in transporting infectious material over long distances. All that is needed is a sterile bottle containing sterile, normal salt solution, in which is suspended some of the discharge from the point of infection, the discharge having been obtained under aseptic precautions. It is important to obtain a liberal amount of the material from the site of infection, in order to furnish the infecting bacteria with sufficient provender.

There are some exceptions among bacteria; some will not grow in salt solution, and doubtless others will be found. Pneumococci can be kept alive in it only a very short time, and are completely dissolved (autolyzed) in four days, as noted by Rosenow. Streptococci do not grow well unless serum from the site of the infection be added, but this can easily be done. Staphylococci, *Bacillus typhosus*, *Bacillus coli communis* and *Bacillus pyocyaneus* can be readily grown. The gonococcus can be grown in salt solution by the addition of a liberal supply of human blood to a free supply of secretion from the infecting area. Diphtheria bacilli grow with difficulty, but can be grown in salt solution by the addition of a few drops of human blood-serum or sterile beef bouillon.

It will be noted that all these materials may be obtained at home and with but little trouble and expense. The tubes of cultures thus obtained may be incubated on the person of the doctor or of the patient, care being taken to see that they are well stoppered by stoppers rendered sterile by boiling or steam sterilization.

I offer this preliminary report to those who are interested in bacteriologic work and especially to workers in vaccine therapy, as a ready assistance in such work, with the desire that it may save both time and expense.

34 Washington Street.

SYSTEMIC BLASTOMYCOSIS

REPORT OF A CASE

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MILWAUKEE, WIS.

During the last decade, blastomycosis cutis has become a well-recognized, distinct, clinical and pathologic entity among dermatologists. Although it is not a common disease, it appears to occur more frequently in this vicinity than it does elsewhere. More cases have been reported from Chicago than from any other one locality, and it is largely to the thorough work of our Chicago confrères that we are indebted for our present knowledge of the disease. Prior to the work of Gilchrist and Stokes in 1896, the disease was mistaken for various other conditions that resemble it in certain respects. The three diseases which have given rise to most difficulty in diagnosis are tuberculosis, syphilis and carcinoma. Blastomycosis resembles very closely the verrucous form of tuberculosis and often a definite diagnosis can only be arrived at after microscopic examination of the tissues or the pus. The lesions of blastomycosis resemble somewhat those of the rarer vegetating forms of syphilis, and if the diagnosis is not established by microscopic examination, the clearing of the lesions under potassium iodid may still further confuse the physician. The resemblance of the lesions to carcinoma is only very superficial and should lead to no difficulty if the history of the case is carefully gone into.

The organism which gives rise to this disease is a fungus much resembling yeast. It is very readily demonstrated in the pus from the lesions by treating the material with liquor potassæ and examining under the microscope with a fairly high power. The organisms resist the action of the alkali and are thus easily distinguished from epithelial cells and pus cells. They are round, oval or slightly irregular in outline and have a well-defined double-contoured homogeneous capsule. The protoplasm is finely or coarsely granular and is separated from the capsule by a clear space of varying width. Budding forms are seen in all stages. No mycelium has as yet been demonstrated in the pus from skin lesions or deeper abscesses, but it is seen in cultures. The organisms grow very readily on artificial media.

The typical skin lesion is so characteristic that to one familiar with the disease, the diagnosis, as a rule, presents very little difficulty. The lesions are elevated from the surface; each has a well-defined border and is covered with irregular papillary elevations, separated by clefts or fissures, giving the whole a verrucous appearance. Portions of the surface are covered by crusts. The border is the most characteristic feature. It slopes abruptly to the normal skin and on close inspection it is seen to be set with a large number of minute abscesses. The pus from these abscesses contains the blastomycetes in large numbers.

The first case of blastomycosis to be recognized was one of systemic infection with the organism reported by Busse and Buschke in 1894. Credit belongs to Gilchrist and Stokes, however, for first describing the typical cutaneous lesions and properly classifying the parasite. Since these reports, a hundred cases or more have been recorded and no doubt many hundreds of cases have been recognized and treated which have not found their way into medical literature.

Recently a number of cases of systemic infection with the organism of blastomycosis have been reported. There are now on record twenty-nine in all; reports of twenty-seven of these were collected and published in a very exhaustive article two years ago by Montgomery and Ormsby. Since that time, one case, the first from the South, has been reported from Memphis, Tennessee, by Fontaine, Haase and Mitchell; and another case has been recorded by Hutchins. To this list I wish to add still another which has recently come under my observation at the Milwaukee County Hospital and which I was able to follow and study with the assistance of Dr. L. M. Warfield.

REPORT OF CASE

The patient was a German laborer, aged 70, who had resided in this country thirty-seven years and had been an inmate of the Milwaukee County Almshouse for four and one-half years. He was first admitted to the County Hospital March 1, 1909, on account of a sore on his right elbow. There was nothing of importance in his past history; he had had typhoid fever, but denied any knowledge of venereal infection.

The present illness dated from three weeks before his admission to the hospital. After a slight trauma, a lesion developed on his elbow. On admission, this lesion was about the size of a silver dollar and presented a purulent granulating surface, with a well-defined margin and somewhat raised above the surrounding skin. This lesion was on the right arm, just over the internal condyle of the humerus. The tissues surrounding this ulcer were edematous. The patient also presented at this time (March 19, 1909) over the vertex of the skull a soft, well-defined mass about the size of a hickory-nut. This was incised

and pus evacuated. This pus was not examined. The wound continued open till the time of the patient's death, and necrosis of the outer table of the skull extended until an area 2 inches in diameter was involved. These two lesions, from the subsequent history of the case, were probably blastomycotic, although no definite proof that such was the case could be obtained. The lesion on the elbow slowly healed under local treatment alone. A section, taken from its margin, showed only granulation tissue. The patient was sent back to the almshouse in August, 1909.

Three months later, he was again admitted to the hospital. At this time there were present three lesions, which, from their clinical appearance and the microscopic findings, were undoubtedly blastomycosis. The most typical of these was situated above and to the right of the upper lip and was about the size of a fifty-cent piece. It was raised above the surrounding skin and partly covered by crusts. Along the margins were many miliary abscesses. There was a larger lesion involving the left cheek, which was concealed by his beard. A third and much smaller lesion occupied the outer half of the right lower eyelid. His general condition at this time was fairly good, although his voice was hoarse and there was some cough and expectoration. Examination of the lungs revealed dulness and moist râles at the left apex. The lymphatic glands of the axilla and neck were enlarged.

The patient was put on increasing doses of potassium iodid, and for a time the local condition seemed to improve. In fact, the lesion on the right cheek disappeared, but promptly recurred.

After about a month in the hospital, the patient began to show evident signs of decline. He lost weight rapidly; his cough and hoarseness increased. In December, 1909, he developed an abscess at the right sternoclavicular articulation which was evacuated. The pus contained blastomycetes in large numbers. Another much larger abscess then appeared on the left elbow. The old lesion on the right elbow was, at this time, practically healed. In February, a retropharyngeal abscess developed and was evacuated. Repeated examinations of the sputum for tubercle bacilli and blastomycetes were negative.

During February and March, the patient continued to lose ground. He became bed-ridden, ran a septic temperature and finally died April 13.

Necropsy.—Unfortunately, a complete necropsy was not permitted but sufficient examination of the contents of the thorax and abdomen was allowed to establish the diagnosis of systemic blastomycosis.

At autopsy, which was performed by Dr. Warfield, the most striking lesions were found in the lungs. These organs were voluminous and dark purplish in color. The glands at the root were rather large, but not caseous. The lobes of the right lung were bound together by tags of adhesions but the pleura in general was not thickened. The cut surface of both lungs showed a grayish finely granular appearance and over it were scattered small nodules, one at the base of the right lung, being about 2 mm. in diameter. Similar nodules were found in the spleen and liver, giving the organs the appearance of being filled with miliary tubercles. This resemblance to tuberculosis is a very characteristic feature of the disease.

The microscopic appearance of the lesions in the lungs also closely resembled miliary tuberculosis. The sections showed miliary abscesses, surrounded by varying numbers of giant-cells. The necrotic centers of these abscesses, together with the giant-cells, contain many of the characteristic organisms of blastomycosis. Very similar lesions are also seen in the sections from the liver, and thus establish beyond a doubt the diagnosis of systemic blastomycosis.

One interesting feature of this case is the fact that although repeated and thorough search was made, the sputum never contained any of the organisms in spite of the very extensive involvement of the lungs and the presence of symptoms pointing to pulmonary involvement ante mortem.

In other respects, the case resembles very closely the majority of those thus far recorded. In all the cases in which an autopsy was done, thirteen in all, the lungs were found to be more or less extensively involved. In several cases the lung symptoms were the earliest noted.

This very general involvement of the lungs would suggest the possibility that the respiratory tract may have been the portal of entrance by which the organisms gained access to the body. The symptoms referable to the lungs, however, have been mild in nearly all the cases, especially during the early part of the disease. The physical findings have not pointed to extensive lung involvement except in a few of the cases toward the end. The symptoms have resembled closely those of tuberculosis, although usually less pronounced than in tuberculous changes of equal extent and severity. Blastomycetes have been demonstrated in the sputum in seven of the recorded cases.

Another common and very pronounced feature of all the cases has been the formation of multiple abscesses, resulting often in sinuses and chronic ulcers. Some have healed, leaving scars. These abscesses have varied in size from minute, almost microscopic lesions to cavities large enough to hold a liter of pus. The miliary abscesses have been found most commonly in the lungs and spleen. The larger ones may invade the joints and cause erosion and caries of the bones.

These larger abscesses may be divided for descriptive purposes into two groups, superficial and deep. The deeper abscesses are, as a rule, larger and have been recorded in the abdomen, thorax, in the psoas muscle, in the retropharyngeal tissue and about the kidney. There is one deep abscess on record from which a quart of pus was evacuated.

Accompanying the formation of multiple abscesses, there are the symptoms which are usual in chronic pyemia—irregular fever, malaise, loss of strength and emaciation.

One point of interest is that in spite of the fact that extensive suppuration has been present in all the cases, in only three has amyloid degeneration been recognized. Characteristic cutaneous lesions of blastomycosis have been present in nearly all of the cases. In a few, the superficial lesions have taken the form of abscesses and superficial ulcers.

The prognosis in cases of systemic blastomycosis is exceedingly unfavorable. Of the recorded cases, only four have recovered. The course of the disease is essentially chronic. Most of the cases have lasted from one to two and one-half years. Only six of the cases have terminated in less than six months. Death has resulted in most instances from gradual exhaustion, due to chronic suppuration or to general dissemination of the disease through the various organs and tissues of the body.

From this very unfavorable record of results, it may be assumed that the treatment of the disease is not very satisfactory. The only drug which appears to have any specific action on the disease is potassium iodid. The patients who have recovered have received it in large doses.

Locally, the lesions should be treated like those of the purely cutaneous form of the disease. One of the best local applications is 1 per cent. copper sulphate solution in conjunction with the use of the *x*-ray.

1242 Wells Building.

AN IMPROVED TONSIL SNARE

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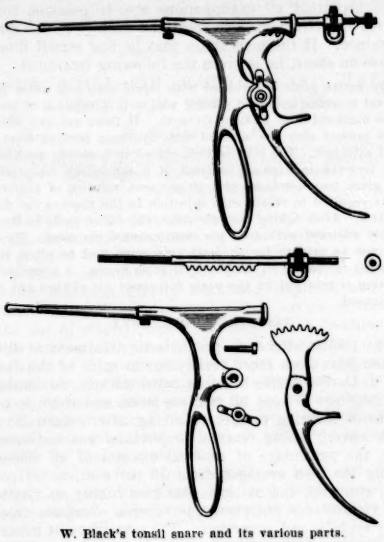
ST. LOUIS

The instrument and its various parts are so well shown in the illustrations that no further description is necessary. It is a more powerful instrument than the ordinary tonsil snare and does not get out of order like many others. It is simple in application, can be used a number of times without requiring a new wire, and, if



W. Black's tonsil snare and its various parts.

properly adjusted, the wire cannot slip. It should be manipulated by a sort of forearm and wrist movement, instead of by the fingers, in closing it, so that the barrel will not be thrown out of line. It is made of solid brass with a heavy nickel coating. Number 7 or 8 piano wire should be used. I have used the instrument a number of times with excellent results. It is made by the O'Brien Worthen Co., Frisco Building, St. Louis.

220 Metropolitan Building.

A SIMPLE DROP METHOD OF GIVING RECTAL ENEMAS OF NORMAL SALINE SOLUTION

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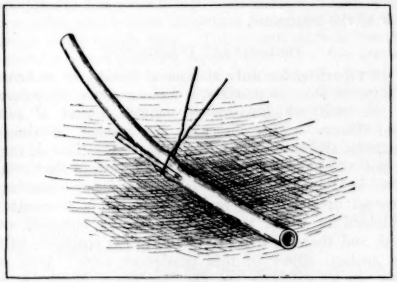
CHARLESTON, W. VA.

Nurses in hospitals often experience a good deal of trouble in giving patients normal salt solution by rectum. For various reasons it becomes intolerable to the bowel and is expelled. Sometimes the solution is too hot, sometimes too cold, but the most frequent trouble is that it is allowed to run into the rectum too rapidly. The reasons for this are as a rule, first, that the nurse has no efficient means of making it flow drop by drop, and secondly, that the douche bag or container is usually hung too high and the water pressure is too great. The container should be hung so that the solution is 8 or 10 inches above the level of the rectum. It should frequently be tested by a bath thermometer and the temperature kept about 100 F. A hot-water bottle on either side of the douche bag or the frequent addition of small quantities of hot saline solution will serve to keep the temperature up.

I have found that the most simple means of inducing the fluid to flow drop by drop is not a hemostat but a hairpin and a match. When the hemostat is clamped on the tube it invariably begins to cut into the rubber and probably five minutes after the solution has been flowing drop by drop it is running in a steady stream. A much better, simpler method, and one which will issue a steady drop by drop flow as long as is desired, is provided for as follows: An ordinary wire hairpin is passed about the rubber tubing so that one of its prongs extends on either side; the free ends are secured from spreading apart by a twist of the wire with the fingers. Three or four wooden toothpicks or a match trimmed down to a wedge-shaped point are induced between the wire hairpin and the rubber tube and gently pushed in until the flow is just as desired. As a rule it is not wise to attempt to give too much fluid at a time. I find that in the average case about 6 or 10 ounces every hour and a half or two hours will be sufficient and will be a little less than the patient will tolerate comfortably. In giving saline solution regularly over a space of more than twenty-four hours one will find that more is usually absorbed at first than later after the system has been saturated with fluid.



Method of regulating flow in rectal enema.

A soft rubber catheter in the rectum is better borne and causes much less irritation, as a rule, than a rigid nozzle. If this catheter is made after the type of the usual retention catheter or if it is secured in place by a strip of adhesive plaster passed across the buttocks the patient is saved from the annoyance of frequent introduction and removal.

Aside from the well-known value of saline solution by rectum in the treatment of shock, thirst and hemorrhage, it is perhaps of greater value still in the prevention of urinary irritation and suppression. Usually the operative patient is depleted of water by purgation and gets but little fluid for several hours prior to, during, and after operation. A considerable amount of toxic and highly irritant material is thrown undiluted on the kidneys and they may prove unequal to the strain. If these toxic bodies are highly diluted with water their elimination will be felt far less.

VENEREAL PROPHYLAXIS IN THE UNITED STATES NAVY

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CAVITE, P. I.

As the first requisites of a military or naval organization are health and efficiency, it is at once apparent that these two conditions must be maintained at the highest attainable point or disastrous results will ensue in time of war. The medical officers of the Navy are responsible for the physical condition of the personnel and it behooves them to safeguard this in every way possible.

One of the most recent steps toward this end is venereal prophylaxis, which is now in operation in the Navy, it having been officially adopted something over a year ago. Some of the naval medical officers, myself included, had recognized the value of the treatment, and were using it in some form or other, long before it was officially authorized. The method now used in the service is practically the same throughout, though there are, of course, slight variations, depending on the views of the several medical officers.

The treatment successfully employed at this station can be conveniently taken up and described under two heads, viz: (1) preliminary instruction, and (2) application of the treatment.

PRELIMINARY INSTRUCTION

On reporting for duty at a naval station, or on board a ship, as soon as possible I begin a series of lectures to the men, which cover the entire subject of venereal disease. These lectures are couched in simple language, and the men are urged to ask questions, if they do not understand any part of the lectures. Particular stress is laid on the danger of neglecting or concealing venereal disease. Venereal prophylaxis is thoroughly explained to them, the excellent results obtained are cited, and they are urgently requested to cooperate with the medical officer in this important work. Most of them do so willingly, as the American bluejacket is very intelligent, and once he realizes that the treatment is for his well-being he cheerfully does his part. Of course there are a few "sea-lawyers" who consider the treatment a joke, or of no value, and these men are the principal sufferers, as, in addition to their greater liability to contract venereal disease, they are punished for not reporting for prophylactic treatment, or for concealing disease, as men of this class frequently do.

To be absolutely certain that no man escapes, each is furnished with a typewritten slip covering the salient points of the lectures and of venereal prophylaxis. At this station slips are made out in English, Spanish and Tagalog (the native language), as there are several hundred Filipinos enlisted in the native auxiliary force, and the majority of these men do not understand English. These notices are also posted in their sleeping-quarters, and in the navy yard boat office where they are on duty.

These lectures are repeated from time to time, as the personnel of the ship or station is constantly changing and many of the new recruits have had no instruction in venereal prophylaxis.

APPLICATION OF THE TREATMENT

At all naval stations, and when a ship is in port, a certain number of men are allowed shore leave every day. This leave is generally from about two o'clock in the afternoon, until seven or eight the next morning. A list of their names is kept and they are checked off when they go, and when they return from shore leave. The medical officer is furnished with a copy of this list every day when the men go ashore. As soon as a man returns from shore he is ordered to report at once to the sick-bay for prophylactic treatment. On reporting there his penis is examined, and he is interrogated as to whether or not he indulged in sexual intercourse while on leave. If he replies in the negative, he is excused from treatment, but if subsequently a venereal infection develops, he is punished for lying. It would be well to state here that all examinations are, if possible, conducted in private so as to spare the feelings of the man examined. If the man states that he had sexual intercourse on shore, he is given the following treatment:

The entire penis is scrubbed with liquid soap and water for several minutes, and then washed well with a solution of mercuric bichlorid 1 to 2000 in strength. If there are any abrasions present they are sprayed with hydrogen peroxid from a hand atomizer. The man is then placed in a sitting position, well forward in a chair in front of a convenient receptacle, and given two injections of a 10 per cent. solution of argyrol. He is required to retain each injection in the urethra for five minutes. After taking the injections, the entire penis is thoroughly anointed with a 33 per cent. calomel ointment. He is told not to urinate for at least two hours and to allow the ointment to remain on the penis for some hours. A temporary dressing is now put on the penis to protect his clothes and he is excused.

RESULTS OF TREATMENT

The results attending prophylactic treatment at this station have been most gratifying, in spite of the fact that at Cavite, unlike all other naval stations, no regular checking list is kept of men on leave, and there is no means of insuring prompt reporting, after return from shore leave. Before venereal prophylaxis was instituted here, the percentage of venereal diseases of all classes among the men averaged from 25 per cent. to 30 per cent. annually, and at times was even higher, as Cavite and vicinity are notorious for venereal diseases, especially syphilis and gonorrhea. The percentage of gonorrhea has been reduced to 8 per cent. annually, and this percentage includes about thirty patients that did not report for treatment. Chancroid was reduced from 5 per cent. to 2 per cent., which includes two patients not reporting for treatment. Syphilis has been reduced from about twenty cases annually, to one case for the entire year 1910, and this patient did not report for prophylactic treatment. These results speak for themselves, and show the efficacy of the treatment, if properly and conscientiously given.

CONCLUSIONS

After an experience of several years, it has been found that if men report for treatment within twelve hours after contact, the danger of contracting venereal disease is practically *nil*. After twelve hours, the treatment fails in many cases. It appears to be of special value in syphilitic contacts. I believe it to be an absolute preventive if employed early. The treatment, to succeed, must be given early and thoroughly. My percentages of failure of treatment have never been over 2 per cent. of cases and sometimes there are no failures for months at a time. The best drug for injections is argyrol, as it is non-irritating, and in my experience a more efficient germicide than any other drug used in the prevention of gonorrhea. I have tried protargol, but to be effective, it must be used in a 2 per cent. solution, which in many

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cases causes urethral pain and discomfort for some hours after taking the treatment, and this tends to keep many men from reporting, except under protest, as they would rather run the risk of infection than suffer the discomfort often caused by the injection of protargol. It is believed that if all contacts reported for treatment within twelve hours, venereal disease would soon be a negligible quantity in the service.

It would seem that venereal prophylaxis could be advantageously employed in civil practice, if physicians in civil life would impress its value on their patients. This would take time, but a few concrete examples in each locality would have a far-reaching effect, and the laity would, in my opinion, eventually see the value of this treatment and act accordingly.

SOME ETIOLOGIC FACTORS AND TREATMENT OF FURUNCULOSIS

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PHILADELPHIA

As the general practitioner is frequently called on to treat cases of furunculosis, he realizes that the march of progress in treatment has advanced along more scientific lines, and many are now using the serum therapy, which has been greatly modified, simplified and perfected since Wright wrote his first article advocating the use of staphylococcus vaccines in the treatment of this disease. They realize that it is not necessary either to allow it to run its course or to try every drug recommended by the dermatologist or therapeutist. In former years, it was common practice for the physician to prescribe "blood tonics," sulphur in large and nauseating doses, calx sulphurata or even to substitute baked egg shells for that preparation.

Ichthyol is often used externally in treatment of this condition, but its efficacy has never been proved and patients justly object to its use as it is extremely dirty and foul-smelling.

The average case of furunculosis, under proper antiseptic precautions against further crops, will cure itself in from one to four months, but many factors enter into the causation of the disease, and one should inquire carefully into the patient's habits, occupation and mode of living; of first importance must be considered an existing diabetes, nephritis or transitory albuminuria. Disorders of the gastro-intestinal tract play an important part in the etiology, as does excessive sweating, friction, lack of, or even excessive use of soap and water. Men who work in paraffin or bar metal workers and those who are thrown in close contact with potassium permanganate, potassium iodid and the bromids are frequently affected.

When single the lesions are usually due to some local injury as blows, friction or from pressure exerted, shown by those who have a sedentary occupation, as tailors, who often have a succession of single or multiple boils on the buttocks. Boils frequently follow various eruptive fevers, especially variola, septicemia, pyemia, sewer-gas poisoning and may occur as complications of certain skin diseases—scabies, eczema, etc. Severe strain and mental worry which lower the vitality must also be considered. Pressure of the collar button may cause a furuncle. In some men, if the back of the neck is shaved when the hair is cut, a crop of small boils will always ensue; this is undoubtedly due to the loss of the protection the hair normally affords, and as there are always present on the skin numbers of staphylococci, the collar rubs them directly into the mouths of the hair follicles, and sebaceous glands and pustules result.

A large number of so-called blood purifiers and blood tonics depend on potassium iodid for the effect, and as this drug frequently produces a pustular eruption, their use naturally is often disastrous.

The pain is out of proportion to the size of the lesion, is worse at night and is of a burning, throbbing character which can only be relieved by evacuation of the pus, leaving an indurated nodule, very tender and frequently accompanied by intense itching.

TREATMENT

First and always the urine should be carefully examined for albumin and sugar and the patient warned against any habits or occupations that might have an influence on the condition.

For furunculosis not caused by any constitutional condition, I have found the following line of treatment of great service in a long series of cases: The end of a wooden applicator is sharpened to a fine point, wrapped with a small piece of raw cotton and dipped into pure phenol. Many men prefer the use of the knife, but the "phenol stick" accomplishes the purpose; being slightly anesthetic, it is much less painful and the resulting scar is smaller, which is an important factor should the condition occur on the face. The phenol stick is inserted carefully where pointing occurs, held for a few seconds to allow the phenol to produce its anesthetic effects and then very gently pushed into the cavity. Extreme caution is used not to go beyond any resistance or the protecting barrier that has been formed to limit the process will be broken down or a blood-vessel punctured. After an opening has been made sufficiently large to permit of drainage the following ointment is applied:

℞

Acidi salicylici	gr. xl vel lxxx
Petrolati	℥i

Sig. Apply twice daily.

At the same time the first injection of staphylococcus vaccine should be given—100,000 to 1 c.c.; at the expiration of four days the second injection of 250,000, in one week more 1,000,000 and again in another week the same dose. In extreme cases, the succeeding doses may be one billion to 1 c.c., but this is rarely necessary. The injections are given into the loose cellular tissue between the scapulæ and better results can be obtained if a dry cup is applied for five minutes before each injection. It will be noticed that the swelling at the point of injection is much more quickly absorbed by this method through the increased amount of blood brought to the part. This also has the effect of preventing, to a great extent, the discomfort that usually occurs after the first injection, as there is some headache, a feeling of lassitude and a slight rise in temperature, rarely above 100 F. These symptoms do not occur after the second and subsequent injections, as a rule.

The question of autogenous versus stock vaccines is a mooted one. I have always used the latter, and my knowledge of the former is only derived from cases reported by other dermatologists. Very few men have either the time, facility or laboratory training to make their own vaccines. If they are obtaining better results than those who choose the easier, quicker and to my mind, the safer way, their reports do not show it. In the past year I have seen three cases in which unpleasant,

if not worse effects have resulted. In two, a marked cellulitis occurred, in one case the swelling was opened on a diagnosis of abscess, but no pus was found. In another case, after five injections of autogenous vaccine a carbuncle occurred and was treated surgically.

By referring to the histories of patients both in private practice and at the dermatologic department of the Jefferson College Hospital, I found a long series of cases that have been treated as outlined in the preceding—opened with the "phenol stick," dressed with salicylic acid ointment and staphylococcus polyvalent stock vaccine injected. A few histories follow.

CASE 1.—A. B., dentist, aged 32, was in good general health, except for furunculosis, and the urine showed nothing abnormal. One and a half years ago he infected his finger while working on a patient. In the course of fifteen months he had between twenty-five and thirty furuncles in different parts of the body, some almost carbuncular, all of which were opened by the knife and dressed, but no other treatment was given for the first six months. At the expiration of this time he was given autogenous vaccine, four injections during one month, with little improvement and in a few days after the fifth injection a carbuncle formed and was freely excised, leaving a large scar. He stopped this line of treatment and continued to have one boil after another until three months ago when I advised the above treatment. After the first injection he noticed a temperature of 99.6 F. and some discomfort. After the second injection of 250,000, marked improvement was noticed in the degree of induration and in the absorption. The dose was rapidly increased to one billion to 1 c.c., repeated twice, and then dropped to one million and the man is now apparently perfectly well. In all, he was given fourteen injections, the largest number I have ever given to one patient.

CASE 2.—T. P. B., male, aged 64, a merchant, was first treated for eczema of the face and neck. Urine showed no albumin at that time. When this condition had been cured under local and internal treatment, the latter being directed against constipation, the patient developed three boils on the back of the neck and the urine showed a trace of albumin but no casts then or later. The furuncles were opened with the "phenol stick" but no vaccine given until a felon appeared on the index finger of the right hand. This was opened with the knife and the first injection given the same day. Subsequent to the second injection, four days later, the improvement was very apparent, and after a total of six injections, the last four of one million to 1 c.c., the condition was cured and there has been no recurrence.

CASE 3.—E. M. K., aged 27, salesman, had had four or five furuncles on the back of the neck during the preceding three or four weeks and he noticed that they started just after his neck had been shaved. The treatment consisted in opening with phenol stick, application of salicylic acid ointment and six injections of staphylococcus vaccine. The man has had no further trouble.

CASE 4.—R. V., aged 30, female, for several months had been having a series of boils on both forearms. Urine examination was negative. This patient was treated as were all the others and required only four injections to effect a cure.

In addition to the four cases mentioned I have the records of forty-six others that differ only in the variation of the situation and the severity of the condition. The patients all received the same treatment, the number of injections varying from four to eight and in each case a cure was effected.

In none of these cases has the index been recorded at any time during the course of the disease, the treatment being guided entirely by the clinical manifestations. This may not be a strictly scientific means of procedure, but it is what the busy general practitioner must do and he is handling a remedy from which the risk is very remote.

CONCLUSIONS

Furunculosis showing no causative factor in any kidney complication can be successfully treated by being opened with a sharpened cotton applicator dipped in phenol, with injections of polyvalent staphylococcus vaccines and by applications of salicylic acid ointment from 5 to 15 per cent. strength.

The inability of the physician to prepare autogenous vaccines on account of lack of time, laboratory facilities and experience makes the stock vaccines prepared by reliable firms a much more desirable method of procedure in the average case.

The pain on opening a furuncle is much less than with the knife as phenol is slightly anesthetic.

The reaction is very slight after the first injection and is lessened by use of the dry cup.

It is not necessary to record the index, the dose may be regulated by the clinical manifestations.

2030 Chestnut Street.

AN EPIDEMIC OF TYPHOID FEVER WITH ISOLATION OF B. TYPHOSUS AND B. COLI FROM THE WATER-SUPPLY

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During April and May, 1910, an extensive epidemic of typhoid fever occurred among the inmates and officers of the Indiana Reform School for Boys at Plainfield. There were slightly less than 700 boys in the school at the time the epidemic occurred and ninety-one of them had typhoid fever. Nine other cases occurred in the families of the officers of the school. At least two persons who visited the institution at about the time the first case was reported are known to have developed the disease within three weeks after their visit. Among the 102 cases there were only two deaths, both deaths of boys who were members of the school.

Dr. Ernest Cooper, attending physician to the school, very kindly furnished me with a list of all the patients, with the date of onset of the disease in each case. The first patient, the superintendent's stenographer, was taken ill April 9. The second case appeared April 15 and the third on the eighteenth. From April 20 to May 11, one or more cases were reported every day, with the exception of April 25. The maximum was reached on April 29, when twelve new cases were received into the hospital. The next highest number for one day was eight cases on May 3. After May 11 the number fluctuated, but averaged about one case a day until May 24, when the last one came to the hospital. The number of cases received each day is shown in Chart 1.

The boys in the school are divided into twelve companies. Each company occupies a separate building, which is used as school-room and dormitory. All the inmates of the institution eat in a common dining-room, except the members of Company 12. The food of these boys is prepared in the common kitchen and is carried to the dining-room in the company's building. The boys are given milk two or three times a week.

Each boy spends a certain number of hours every day in school; the remainder of the time he works at whatever task he is detailed to do. Cases of typhoid occurred in every company, Companies 1, 2 and 6 being most

affected, Company 10 least so. The number of cases in each company is shown in Table 1.

TABLE 1.—SHOWING NUMBER OF CASES OF TYPHOID FEVER AMONG MEMBERS OF EACH COMPANY

Company	Case No.	Company	Case No.
1	12	9	4
2	12	10	2
3	6	11	8
4	3	12	9
5	5	Officers and their families	9
6	12	Visitors	2
7	9		
8	8	Total	102

A sanitary survey of the institution was made May 2. The general situation was first examined and three important facts discovered, viz.: 1. Cases of typhoid

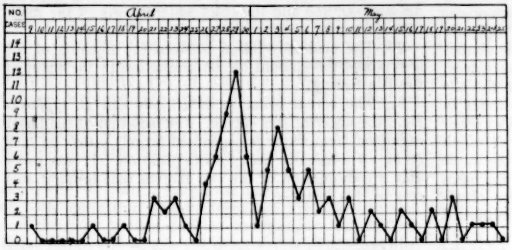

Chart 1.—Curve showing the occurrence of the cases during theepidemic.

fever occurred in the families of the officers of the school as well as among the boys. 2. The only things which the boys and the officers' families used in common were milk, and water from a spring, always designated as the "Big Spring," which was the main source of drinking-water for the entire institution. 3. It was also found that cases occurred in every company in the school, but that Company 10 had escaped with only two cases. On further inquiry it was learned that the boys of Company 10 used milk from the same source as the other companies, but obtained distilled water from the ice-plant for drinking-purposes. The two typhoid patients from this company, on being questioned, stated that they had been working away from their own company and had drunk water from various sources, including the Big Spring.

Sanitary conditions in the dairy barn, milk-house, kitchen, bakery and ice-plant were found to be excellent. In the basement of each company building there are a number of shower baths, the water coming from a large open concrete reservoir. The water of this reservoir comes from two sources: at least one-half flows through a narrow chute from a pond or small lake which is fed by numerous springs; the remainder is pumped from a creek nearly half a mile distant. The pumping station on the creek was located, at this time, about one hundred yards below the outlet from a septic tank into which the sewage from eleven buildings was conducted. Later, the outlet from the septic tank was changed so as to empty into the creek several hundred yards below the pumping station. Water from the reservoir was examined bacteriologically a number of times. On May 2, when the creek was high as the result of a recent rain, the water in the reservoir yielded 30 per cent. gas in dextrose broth. At no other time did it yield more than 15 per cent., and once it yielded none.

The water-supply of the institution had for years come from a number of natural springs. Less than two years before the epidemic occurred the largest of these springs, always designated as the Big Spring, had been followed for some distance toward its head to the end of a series of jointed tiles put in position years before. From the end of the line of tile an iron pipe was laid to the former outlet of the spring (Chart 2). This pipe passed immediately beneath the toilet and sewer connection of the building occupied by Company 11, but all joints

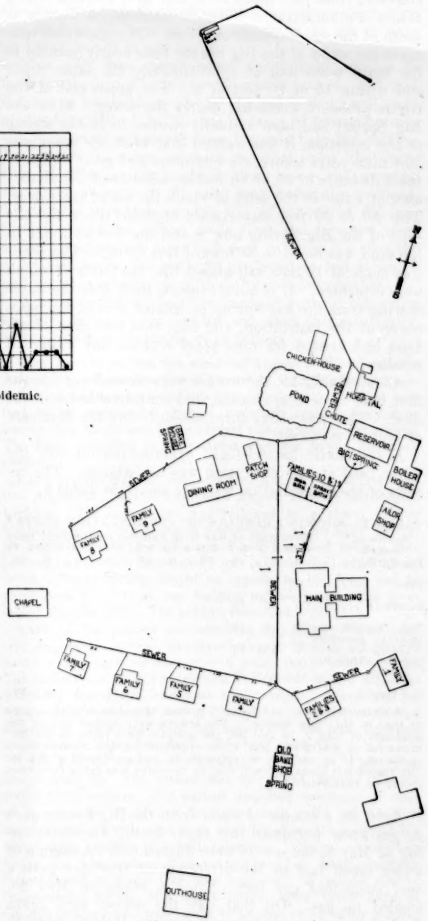

Chart 2.—Plan of the institution grounds, showing the location of buildings, dormitories, sources of water-supply, sewer system, etc.

were carefully leaded and there was probably no leakage.

In addition to this Big Spring, there was another in the basement of the bake-house which furnished water for cooling the milk and much of that used in the bakery, and in the dining-room and kitchen. A third spring, known as the Old Bake-house Spring was in the southern

half of the grounds and was not used except when some of the boys in near-by company buildings surreptitiously got water there to avoid carrying it the greater distance from the Big Spring.

The main sewer-line of the institution runs northward near the center of the grounds. The Bake-House Spring is west of the main sewer-line, the side from which the flow in the spring comes. A branch sewer, however, runs just south of it and in a position which favors contamination. The Old Bake-House Spring is south of the whole system of sewers. The tile which conducts the water of the Big Spring runs nearly parallel to the main sewer-line at approximately the same depth and within 15 or 20 feet of it. The upper end of the tile is probably somewhat nearer the sewer. After the Big Spring had been virtually proved to be the source of the infection, it was learned that when the sewer was laid nine years before, the engineers had great difficulty for a distance of 50 or 60 feet on account of the abundance of water in the sand in which the sewer was placed. This 50 or 60 feet was exactly opposite where the tile pipe of the Big Spring now is and the flow of water in the sand was noted to be toward this spring. The sewer was made of 12-inch salt-glazed tile, the joints of which were cemented. It is quite evident, then, that the water flowing from the Big Spring percolated around the main sewer of the institution, and that this condition of affairs had existed for nine years without any untoward results.

About March 15, the sewers were flushed out for the first time in several months, and considerable force was used. This was about three weeks before the first case of typhoid occurred.

A systematic bacteriologic examination of all the water used at the institution was undertaken. The results of the fermentation tests are shown in Table 2.

TABLE 2.—SHOWING RESULTS OF FERMENTATION TESTS *

Source of Sample	Percentage of Gas from Samples on Different Days									
	4/29	5/2	5/7	5/9	5/10	5/11	5/20	5/20	5/20	5/21
Big Spring	0	25	0	30	0	15	0	0	0	42
Pond	0	18	..	..	..	..	..	..	..	..
Reservoir	0	30	15	..	..	..	..	..	..	..
Bake-House Spring	0	0	10	..	..	..	..	..	..	..
Inlet to reservoir (creek water)	..	15	12	..	..	..	..	..	..	..
Old Bake-House Spring	..	..	30	..	..	..	..	..	..	..
Old tunnel	..	..	..	..	..	..	2	0	0	30

* Water from the "old tunnel" is from the same original source as that in the "Big Spring." The sewers were flushed out on the mornings of May 2, 10 and 20; the samples were taken in the late afternoon of May 2 and 10. Those examined on May 20 were taken at 6 a. m., 12 m. and 6 p. m., respectively, and on May 21 at 6 a. m. The spaces left blank indicate that no specimen was taken from that source on that date.

April 29, a sample of water from the Big Spring gave no gas when inoculated into sugar broth. On the morning of May 2, the sewers were flushed out. A sample of water taken late in the afternoon of that day gave a very suspicious gas test. Samples taken on May 20, yielded no gas. On that day the sewers were again flushed and a sample taken at 6 a. m., May 21, gave 42 per cent. gas.

No attempt was made to make accurate bacteriologic counts after the first examination. Each specimen was first plated on malachite-green agar. The forty-eight-hour growth on this media was washed off with sterile salt solution and suitable dilutions plated on Endo's medium. May 2 and 21, red colonies, which were proved by cultural tests to be *B. coli*, were isolated from the water of the Big Spring. May 2, an organism having all the cultural characteristics of *B. typhosus* and agglutinating with serum from one of the patients in a dilution of 1 to 50, was also isolated from the same source. This patient's serum gave a strongly positive agglutination test with a known culture of typhoid bacillus.

April 21, the boys were warned not to drink water from the Big Spring. How thoroughly this warning was obeyed is not known. About May 5, the Big Spring was sealed up so that no water could be obtained from it and the epidemic began at once to subside, the last patient entering the hospital May 24. The water-supply of the institution is now obtained from deep driven wells.

This investigation is interesting for the following reasons:

1. The close relation which had existed between the main sewer line and the chief water-supply of the institution for nine years without untoward results.

2. The evident relation between the flushing of the sewers and the amount of contamination in the water of the Big Spring.

3. The actual isolation of *B. coli* and *B. typhosus* from the water of this spring. The isolation of the latter organism from water is dependent largely either on luck or on an unusually heavy contamination. It was probably a combination of the two factors that brought success in this instance.

A RATIONAL INDICATION FOR BACTERIAL VACCINE IN TYPHOID FEVER

WITH A REPORT OF FOURTEEN CASES

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In the introduction to the study of infectious diseases, under the heading "Fever," Osler's "Modern Medicine" (Volume 2) says:

> The fever type is clearly associated, also, with the production of specific antimicrobic substances. In recurrent fever, the fall in temperature has been shown by Gabritschewski to be associated with the appearance of antibacterial substances that check the development of the spirilla; as these substances diminish, a new attack sets in. There is reason to believe that the fall of temperature with the crisis in pneumonia depends upon the somewhat sudden development of pneumococcidal and other reactions, because the pneumococci disappear, as a rule, from the circulating blood as crisis comes on.

This is quoted merely because it expresses broadly the general principle, which it is the purpose of this article to limit to typhoid fever, as the basis of a rational justification of vaccine therapy in this disease.

To go one step further, I may say that recovery from any infectious disease depends on two factors—the destruction of the causative organisms present in the body, and the elimination or neutralization of the toxins produced by them. With this as a working basis, a typical case of typhoid fever in a non-immune may be considered from its onset to a favorable termination with reference to these two factors alone, ignoring the well-known pathologic anatomy. Every non-immune or normal person must possess cell-receptors capable of combination with typhoid toxin, in order to present the typical symptoms of the disease. He must also possess either opsonin capable of actuating phagocytosis of the typhoid bacillus, or a bacteriolysin or agglutinin capable

of accomplishing its destruction. In other words, a man who presents toxic symptoms as a result of typhoid infection, has killed enough bacilli to liberate their endotoxin. Let us follow this process.

Our subject secures a good dose of virulent typhoid bacilli. The first thing that happens is the destruction of a few of these organisms by the natural bacteriolytic forces, possessed by all individuals, with the liberation of their endotoxin. To this endotoxin the body reacts, producing a rise in temperature—very slight at first, because the dose of toxin liberated is small, on account of the feeble bacteriolytic power of the body. This toxin, besides causing a febrile reaction, excites the formation of a specific antibody to it and an antitoxin is produced, which, as it "fixes" the toxin present, causes a subsidence of the fever. If all of the bacilli of the initial infection were killed in one lot, our case of typhoid would end here. Unfortunately this does not occur. The infecting dose of organisms being more than the feeble natural defenses of the body can handle, they multiply rapidly, and if, on the other hand, body defenses were exhausted with the killing of the first lot and not reproduced, their rapid increase would result in mechanically obstructing the circulation. Fortunately, however, this also does not occur; for, besides the liberation of the endotoxin from within the cell capsules of the destroyed bacilli, substances exciting the production of both agglutinin and bacteriolysin are also liberated and the body is thus enabled to reproduce its antibacterial forces and attack the descendants of the unkilled bacilli of the initial infecting dose. The gradually rising temperature in the first week, then, may be said to be due to increasing doses of typhoid endotoxin liberated as the result of the destruction of increasing numbers of bacilli, by an ever-increasing bacteriolytic agent.

During the second week the condition reaches nearly a balance; that is, the production of antitoxin occurs nearly as rapidly as the toxin is liberated, but just enough later, or in insufficient quantity, so that the temperature remains practically uniformly high, on account of the abundance of bacteria from which the toxin is derived. During the third week, however, the bacteriolytic forces, which have constantly been added to, begin to assert themselves, and, either on account of their increased power, or a diminution in the virulence of the organism, the available supply of bacteria for the liberation of toxin diminishes. The doses of toxin then, after each bactericidal onslaught, are not so large nor so rapidlly produced, in consequence of which, antitoxic action becomes more apparent. A dose of toxin produces a febrile reaction, which disappears as the toxin is neutralized; the temperature rises and then falls before another dose of toxin is produced to repeat the reaction; a remittent temperature results in which the reactionary rises have a tendency to become progressively less pronounced and the periods of remission progressively longer. The temperature therefore falls by lysis.

It will thus be seen that, during the third week, bacterial aggressiveness may be, figuratively, placed in one pan of a balance and the body defenses, consisting of bacteriolysin, agglutinin and antitoxin, in the other, the remittent temperature registering the tilting of the balance arm. The destruction of a group of bacilli and the liberation of their toxin are indicated by a rise in temperature, and the antitoxic action by a fall.

If the above paragraphs may be considered as detailing the toxin-antitoxin strife as it occurs, it is obvious that the introduction of any factor which would increase antitoxin formation would minimize the toxic symptoms of the disease; while the introduction of any factor which would increase bacteriolysis or agglutination would hasten its subsidence. Both of these conditions are fulfilled when dead typhoid bacilli are introduced into the body, in that the endotoxin is supplied without the necessary destruction of bacilli by the body, and the antitoxin, the formation of which it excites, produced in excess of that needed to neutralize it, becomes available to act on toxin produced from bacteria killed within the body; also the bacteriolysins and agglutinins, whose formation the dead bacilli have excited, are ready to act at once on living bacilli in the tissues.

That this does occur when antityphoid vaccine is used prophylactically is experimentally proved; and that the use of bacterial vaccine in clinical typhoid will start a prevailing tilt of the balance in favor of recovery, from the observation of several cases I cannot help but believe. In fact, as the cases herewith reported show, the duration of fever in the majority was below the average, while the average in all cases was materially reduced. In no case in which vaccine was administered did untoward symptoms follow, aside from the expected reactionary temperature rise; and even in cases not showing a decided result, the patients professed to feel stronger and better, and even asked that the dose be repeated.

A brief outline of fourteen cases of typhoid occurring in 1910, in which the vaccine was used therapeutically, after a positive diagnosis, is as follows:

CASE 1.—The patient was admitted August 9; Widal positive August 21; patient inoculated August 26 with 500,000,000 bacteria; no reaction after inoculation. Temperature fell to normal within seventy-two hours; remained normal forty-eight hours; then the patient had a typical relapse lasting three days. The fever including relapse lasted eighteen days. Recovery ensued.

CASE 2.—The patient was admitted August 11; Widal positive August 21; patient inoculated August 26 with 500,000,000 bacteria. The inoculation was followed by a sharp rise in temperature to 104.5 F. which responded to an ice bath. Thirty-six hours later it reached normal and remained there. This patient was severely prostrated; was in coma-vigil when inoculated. The symptoms abated as rapidly as the fever and in three days the patient was begging for beefsteak. The fever lasted nineteen days. The patient recovered.

CASE 3.—The patient was admitted August 14; Widal positive August 23; patient inoculated August 26 with 500,000,000 bacteria, and again on September 6 with 1,000,000,000 bacteria. The patient was all but abandoned as hopeless on two occasions following prodigious intestinal hemorrhages. There was no temperature reaction following either inoculation, but a decided clearing of the mental haze was apparent. The total duration of fever was thirty-two days. Recovery ensued.

CASE 4.—The patient was admitted August 15; Widal positive August 22. The patient was inoculated August 26 with 500,000,000 bacteria. The patient appeared moribund at time of inoculation; could not be roused and could not swallow nourishment. Urine and feces were evacuated involuntarily; very slight reaction followed injection. Within seventy-two hours the temperature was normal and a most startling improvement in every way was apparent. A second rise of temperature lasting forty-eight hours, after three days of normal temperature, was found to be due to an otitis media; paracentesis relieved it almost immediately. There were fourteen days of fever, exclusive of that due to otitis. The patient recovered.

CASE 5.—The patient was admitted August 15; Widal positive September 1; patient inoculated September 12 with 500,000,000 bacteria. This was a very mild case and several Widals were necessary to diagnose typhoid fever as complicating an acute bronchitis, which was present. Convalescence was well established when the patient was suddenly seized with a coughing fit and died in an hour of cerebral embolism.

CASE 6.—The patient was admitted August 17; Widal positive August 23; patient inoculated September 6 with 500,000,000 bacteria, and again September 16 with 1,000,000,000 bacteria. No marked reaction followed either dose, though marked symptomatic improvement was apparent after each. After thirty days of fever the temperature fell to normal, remained so for two days, then rose to 102 following a chill and returned to normal within eight hours. This was repeated twice on two succeeding days, after which there were three days of normal temperature, and again three days of chill and fever. There was no history of malaria for over three years previously, but during the second set of chills a quartan plasmodium was found; the hypothesis being a triple quartan infection latent or by parthenogenesis. The case responded readily to quinin. Recovery followed.

CASE 7.—The patient was admitted October 12 with tonsillitis. Temperature continued elevated after subsidence of throat symptoms. Widal positive November 6. The patient was inoculated Nov. 9 with 500,000,000 bacteria, and November 19 with 1,000,000,000 bacteria. The duration of fever, including severe relapse, was thirty-two days. The patient recovered.

CASE 8.—The patient was admitted October 26; Widal positive November 6; patient inoculated November 9 with 500,000,000 bacteria; died November 19, after three days of continuous, profuse intestinal hemorrhage.

CASE 9.—The patient was admitted October 27; Widal positive November 7; patient inoculated November 9 with 500,000,000 bacteria, and November 19 with 1,000,000,000 bacteria. At the time of the first inoculation the patient was comatose; some improvement in symptoms followed the first dose, though complete aphonia persisted several days after second dose. Duration of fever twenty-eight days. Recovery.

CASE 10.—Patient admitted November 2; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever seventeen days. Recovery.

CASE 11.—Patient admitted November 5; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever sixteen days. Recovery.

CASE 12.—Patient admitted November 6; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever eighteen days. Recovery.

CASE 13.—Patient admitted November 12 from suspect ward. Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever ten days. Recovery.

CASE 14.—Patient admitted November 12 from suspect ward. Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever eighteen days. Recovery.

In the foregoing cases the diagnosis was based on the Widal reaction, the macroscopic method being used and the end titer of each patient's serum being obtained. Besides the Widal reaction, total leukocyte counts and differential counts were made on the same day as the Widal.

In no case was actual or polymorphonuclear leukocytosis present. The feces of each was plated on Endo's medium; all suspicious colonies were fished and planted in lactose-litmus agar. From these tubes, showing a characteristic reaction, the organism was transferred to plain agar, and as a plain agar culture, was agglutinated by a known typhoid immune serum.

It was noticed distinctly that the cases which gave the lowest serum titer in the Widal reaction were those in which the symptoms were most aggravated. On the other hand, the cases which gave an agglutination in a dilution of from 1:360 to 1:720 on the tenth day, ran a mild, short course. With the exception of three of the cases cited above, and five ambulant cases, which have not been reported, the degree of prostration and toxemia manifested by these patients within ten days of their admission was the most pronounced that I have witnessed in several typhoid epidemics. The contrast following a single inoculation was consequently most remarkable. In Cases 3, 5, and 7 the result was most startling. The entire picture was changed in forty-eight hours from that of a man whom the nurses were expecting to carry out any minute, to that of a patient distinctly able to take notice.

In conclusion it may be said that the therapeutic administration of antityphoid vaccine is attended with no bad results and does in no way increase the patient's discomfort. On the other hand, its use did, in all of the cases observed, improve the general condition of the patient; while in the three cases above referred to, its action was nothing short of marvelous. In view of these facts, and granting the correctness of the hypothesis advanced above, it would seem that vaccine in typhoid fever is certainly rationally indicated.

RESECTION OF THE SPERMATIC PLEXUS FOR THE RELIEF OF CERTAIN FORMS OF DYSMENORRHEA *

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Dysmenorrhea, or painful menstruation, is the bane of many a woman's life. To be obliged to keep in bed swathed in hot cloths and stupefied with drugs for from a day or two to a week or two out of every month is sufficient to drive almost any woman to distraction, yet such is the unfortunate lot of many.

The cause of the pain in these cases has been the subject of much discussion and the most divergent views have been expressed concerning it. Some writers hold that the pain is due entirely to local conditions of the pelvic organs, while others assert that local conditions have little or nothing to do with producing the pain, but that it is always the result of some general disturbance.

Theilhaber[1] says that only in a minority of the cases is the pain due to anatomic causes, while in more than three-fourths of the cases it is the result of functional disturbances. He believes that the pain is caused by a spastic contraction of the smooth muscle fibers forming the sphincter of the internal os uteri and has devised a special knife for cutting out a section of this sphincter.

Menge[2] divides the dysmenorrheics into two classes: those with hypersensitive nervous systems and normal pelvic organs—idiopathic dysmenorrhea; and those with hypersensitive pelvic organs and normal nervous systems—secondary dysmenorrhea; but he says that these two forms present such similarities that in their nature they must be related. He recognizes this relationship by stating that all dysmenorrheas must be referred to a "menstrual painfulness of the uterus," which practically amounts to saying that the patient has dysmenorrhea because she has painful menstruation.

It seems to me that there can be no disputing the fact that abnormal local conditions may cause pain during menstruation; likewise, that in neurotic or hysterical women, or in women with unbalanced or temporarily deranged nervous systems, the performance of a function such as menstruation may give rise to pain, which under similar conditions in women, with healthy, stable nervous system, would scarcely be felt.

* Read before the North Texas District Medical Society, Dec. 14, 1910.

1. Centralbl. f. Gynäk., xxv, 1339.
2. Centralbl. f. Gynäk., xxv, 1367.

Menstruation is not a simple function but a very complex one in the performance of which are concerned, not only the general conditions of the body as a whole, but also the local condition of three organs, namely, the ovaries, the tubes and the uterus.

If general states of the body are instrumental in producing menstruation, derangements of these general states may produce deranged menstruation. If the ovaries, the tubes and the uterus take part in the function of menstruation, abnormal conditions of these organs may cause abnormal menstruation.

Based on the location of the cause, then, we may subdivide the dysmenorrheas into three groups: (a) those due to deranged general states; (b) those due to abnormal conditions of the uterus; (c) those due to abnormal conditions of the ovaries and tubes.

As will be seen, the ovaries and tubes are grouped together. The reason for this is that the inner three-fourths of the tubes and the ovaries have the same nerve supply, and painful sensations arising from them cannot, therefore, be differentiated.

It is not my intention to take up in detail the various pathologic conditions found under these three groups, but it is to the third or tubo-ovarian group that attention will be directed. Furthermore, it is not so much my desire to define the particular disease or pathologic condition giving rise to the pain as it is to establish the fact that the condition, be it what it may, may be confined to the ovaries or to the inner portion of the tubes or to both.

The lesions found are of two kinds: gross pathologic lesions such as ovarian or tubal abscesses or large ovarian cysts, and rather inconspicuous lesions such as the angiodystrophies of the ovaries, chronic interstitial salpingitis, and adhesions of the ovaries or tubes to the intestine, omentum or neighboring peritoneal surfaces.

It is the latter class, or the inconspicuous lesions that are responsible for the pain in that variety of dysmenorrhea called ovarian. I am aware that many writers have denied the existence of the so-called ovarian dysmenorrhea, but I am convinced that they are mistaken.

I think that all physicians of experience in this line will recognize a class of women who suffer intensely at the menstrual period, yet in whom the most careful examination fails to discover any general state or any disease of the uterus sufficient to account for the pain. These patients are frequently unmarried and often have had the dysmenorrhea throughout their entire menstrual life. Others are married and have borne children without any material change in the dysmenorrhea.

A characteristic feature of the pain is that it is mostly premenstrual, that is, it precedes the flow by from one or two days to a week and gradually subsides as the flow becomes established. The pain is usually bilateral, referred to the ovarian region or the lower abdomen. It may extend down the inner side of the thighs or the outer side over the hips and is so severe that most of the patients are confined to bed for a variable time each month. The ovarian regions are very sensitive on pressure. The women are frequently neurotics or have hypersensitive nervous systems, either primarily or become so by reason of the repeated suffering, and are the ones who resort to all kinds of anodynes, narcotics, headache powders, hot whiskey and gin drinking, etc., to secure relief from the pain. About the only thing discovered on examination is tenderness in the region of the ovaries, sometimes excruciating, which becomes more marked the nearer the time is to the next menstrual period.

It was in hope of relieving these patients that I conceived and carried out the idea of resecting the nerves which supply the ovary. These nerves, according to Nagel in von Bardeleben's "Handbluch der Anatomie des Menschen," arise from two sources: (1) from the plexus renalis; and (2) from the lower portion of the plexus aorticus abdominalis or, as Frankenhauser calls it, the plexus spermaticus, and they are purely sympathetic in their nature.

As a rule, there are two spermatic ganglia situated on either side of the aorta just above the promontory of the sacrum.

The plexus renalis lies in the angle formed by the renal artery and the aorta. From this point is given off a thick trunk which accompanies the spermatic vessels and receives several small nerves from the spermatic ganglia. These nerves, called the spermatic plexus or the plexus arteriæ ovaricæ, pass along with the spermatic or ovarian vessels through the infundibulo-pelvic or suspensory ligament of the ovary into the pelvis and distribute branches to the broad ligament, the ovary and to the ampulla of the tube and form in conjunction with uterine nerves a small ganglion situated in the neighborhood of the uterine attachment of the ligamentum ovariæ proprium. The ovary and the tube as far as the isthmus are, therefore, supplied by the spermatic plexus, while the uterus and the isthmus of the tube receive their nerve supply from an entirely different source, namely, through the hypogastric plexus. It is very evident, then, that any pain-producing irritation, having its origin in the ovary, or in the tube, can be transmitted centrally only through the spermatic plexus just described and a resection of these nerves must effectually cut off all sensation in these parts. A resection of these nerves is a simple matter if they be approached at the upper part of the infundibulo-pelvic ligament where they lie rather closely together accompanying the ovarian vessels.

The abdomen is opened in the usual manner. The infundibulo-pelvic ligament picked up with a forceps and made taut. An incision 3 or 4 cm. in length is then made through the peritoneum along the free border of the ligament beginning well up toward its proximal end. With the handle of a scalpel or any blunt dissector the two layers of peritoneum are freed from all the other tissues forming the ligament; a catgut ligature is passed around the proximal end of this mass and tied; a similar ligature is passed around the distal end and the intervening portion, usually from 2 to 3 cm. in length, is resected. The incision along the free border of the ligament is then closed with catgut and the operation is completed.

It will be readily understood that in the small mass of tissues removed are included all the nerves passing to the ovary as well as the ovarian vessels from which it is impossible to separate them. As the ureter enters the pelvis through the base of the proximal portion of this ligament, great care must be exercised not to include it in the ligature. Of course the resection is made bilaterally if the trouble is bilateral.

As these nerves are the only ones supplying the ovaries and the inner end of the tubes the effect of resecting them is, of course, to render those parts anesthetic so that they can no longer give rise to painful sensations.

It will be readily understood that the operation here recommended affects only those cases in which the pain is of ovarian or tubal origin. It does not relieve the pain when it is due to pathologic conditions within the uterus and it is necessary, therefore, to diagnose the

cases correctly, and to make a careful selection of those to which the operation is suited.

That a multiplicity of causes of the pain may be present is self-evident from what has been said, and when this is the case the other conditions must be remedied if possible by proper general treatment and local operative measures if relief from pain is to be expected.

I shall not now enter into a detailed report of the cases in which I have operated, but will simply say that I have operated on over twenty women with gratifying results. I have seen women, who had spent from several days to a week or more in bed at every menstrual period, menstruate without pain and recognize its presence only by the appearance of the flow. Other patients have lost only the acute premenstrual pain, while in a few no benefit has followed, evidently owing to the fact that the pain had its origin elsewhere than in the ovaries or tubes.

No other effect than the relief of pain has been noted as the sexual and reproductive functions are not interfered with.

A CONVENIENT METHOD OF TESTING THE VISUAL FIELDS FOR COLOR WITHOUT THE USE OF A PERIMETER

FOR APPLICATION IN CASES OF SUSPECTED INCREASED INTRACRANIAL TENSION

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It was formerly supposed that inversion of the visual fields for blue and red was pathognomonic of hysteria, especially when, in addition, a contraction of the field for form was present. Not everyone is yet acquainted with the work of Babinski,[1] which has clearly shown that the perimetric examinations of hysterical patients, as ordinarily conducted, are redolent of suggestions, and that these very often influence the patient; so that the findings are not reliable except as indices of suggestibility. Thus, there is no characteristic visual field type in hysteria.

There are certain affections, however, in which the visual field is characteristically inverted or interlaced. This happens whenever the intracranial tension is increased to the point where there is an interference with the functions of the neurons which conduct visual impressions. This manifests itself most particularly, clinically speaking, toward the periphery of the retina, where the sensibility is feeblest; so that, as Bordley and Cushing[2] have shown, the red is perceived even sooner than the blue on approaching the center of the visual field in cases in which the intracranial tension is increased by edema of the brain, whether this is produced by a tumor within the cranium, by hemorrhage therein, or by some constitutional condition resulting from chronic nephritis, diabetes or other modification of the blood.

To measure this inversion or interlacement of the color fields accurately, a perimeter is of course required; but I have found that the inversion may be ascertained roughly by the following method:

The patient sits with his back to a good light, looking fixedly at a point in the distance. He is directed to signal as soon as he perceives any movement of the examiner's hand. The visual field is then approached by the observer's hand, which holds alongside and parallel two objects, colored respectively an intense, pure, bright red and a blue. After the patient signals, he is asked to signal again as soon as he perceives any color, while the center of the field is very slowly approached. The observer then stops the movement, and asks what color is seen. For corroboration, the movement is then continued until the other color is also seen.

In normal persons, blue is always seen before red. If this is not the case, increased tension may be suspected. In two recent cases, one of tumor and one of albuminuric retinitis, this method has been as positive as that with the perimeter.

If the test is performed with careful technic, it is reliable, and is a useful addition to clinical methods. Indeed, Cushing believes that when inversion of visual fields appears in the case of a tumor, operation should not be further delayed.

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1. Babinski: La conception de l'hystérie, Paris, 1906. Williams: Papers on Hysteria: International Clinics, 1908, iii; Boston Med. Jour., 1909, i; Am. Jour. Med. Sc., August, 1910, etc.
2. Bordley, J., and Cushing, H.: Observations on Choked Disc, THE JOURNAL A. M. A., Jan. 30, 1909, p. 353.

A SIMPLE METHOD OF CULTIVATING THE MORAX-AXENFELD DIPLOBACILLUS*

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CINCINNATI

This case report calls attention to the fact that the Morax-Axenfeld bacillus grows as readily and in as characteristic manner on Dorset's egg medium as on Loeffler's blood-serum. The comparative ease with which the former medium can be prepared should render this fact of value.

To cite an illustrative case:

Patient.—J. M. W., aged 34, a blacksmith, was admitted into the service of Dr. D. T. Vail on Oct. 24, 1910. He was suffering from double catarrhal conjunctivitis, which he thought had been acquired by using the towel of his roommate who had sore eyes.

Bacilli.—Smear preparations from the purulent secretion from each eye showed the presence of isolated diplobacilli lying between the polymorphonuclear leukocytes and apparently in pure culture. The diplobacilli measured 2.7 by 0.8 and the rods had rounded ends. They stained well with Loeffler's methylene-blue, but were decolorized by Gram's method. Slants of Dorset's egg medium and Loeffler's blood-serum were inoculated with pus from each eye. After twenty-four hours' incubation, numerous characteristically pitted colonies appeared resembling those described by Morax[1] and Pusey.[2]

The pits in Dorset's egg medium were not quite so deep and the diameter was less than those in Loeffler's blood-serum, and they did not become confluent on the former medium so rapidly as on the latter. Transplants failed to grow on the ordinary laboratory media.

Neurasthenia in Young Children.—A deficiency of nerve force may be present from earliest childhood, often as an accompaniment of the "neurotic" temperament, and occasionally with mental deficiency. Cases of this condition, which might be described as "neurasthenia minor," are generally the offspring of neurasthenic or neurotic parents, and may drift into more confirmed neurasthenia in later life.—C. Riviere, in the *Practitioner*.

* From the Pathologic Laboratory of the Cincinnati Hospital.
1. Ann. de l'Inst. Past., 1896, 10, p. 337.
2. Pusey, Brown: The Diplobacillus of Morax-Axenfeld, July 28, 1906, p. 255.

Therapeutics

ANKYLOSTOMIASIS, UNCINARIASIS, OR HOOKWORM DISEASE

These terms may be regarded as practically synonymous. They are applied to a condition characterized by symptoms which are caused by the presence in the intestinal canal of the worms *Ankylostoma duodenale* and *Uncinaria duodenalis*, or *Uncinaria americana*, which, if not identical, at least closely resemble each other. They belong to the class of nematodes in which are included *Ascaris lumbricoides*, *Oxyuris vermicularis*, and trichinæ, all of which have recently been described in this department.

It has been comparatively recent that the economic importance and the frequency of the *Uncinaria duodenalis* has been recognized, although the symptoms produced by them have been considered a clinical entity for over a century. Early in the nineteenth century, a special form of anemia was recognized as affecting miners in Hungary. In 1838, Dubini found ankylostoma in the intestine of a girl who had died of progressive anemia. In 1851, Griesinger declared that this parasite was the cause of Egyptian chlorosis. But the clinical importance of the parasite was not definitely settled until, in 1882, Perroncito showed that the epidemic of so-called miners' anemia which occurred during the building of the St. Gothard tunnel was due to ankylostoma.

Since the occupation of Porto Rico by the Americans about twelve years ago, the disease has been thoroughly studied by American physicians, especially by Drs. Ashford, King, and Stiles. These men have proved the great prevalence of the disease not only in Porto Rico, but in the southern part of the United States; have pointed out its great industrial importance; and have demonstrated a simple and effective method of cure.

The male worm is about 11 mm. in length and about 0.5 mm. in width; the female is about 15 mm. in length and about 1 mm. broad. It is found most abundantly in the jejunum, but it may be found also in the duodenum and upper part of the ileum. It may be firmly attached to the mucous membrane, or may be imbedded in the mucus on the membrane, or may be free in the intestinal canal. The eggs are passed in large numbers with the feces, and under favorable conditions may retain their vitality for a long time. These favorable conditions include warmth, moisture and darkness. Sunshine and the incidental drying are destructive to them. After passing from the body of the host, especially when the soil is dry, they rapidly become scattered about.

Their most common attack on the human subject is through the feet. Both adults and children who run about barefooted in places where the disease is endemic suffer from a dermatitis which is caused by the action of the ova or eggs on the skin. They first produce a dermatitis and next an eruption of vesicles which are liable to be infected by various bacteria, producing pustules and ulcers of varying depth, which may persist for a long time, and which, when healed, usually leave discolorations. The ova pass through the skin and into the blood by which they are carried to the lungs. Here they escape into the bronchioles, migrate to the bronchi, thence to the larynx, and into the throat, from which they are swallowed.

The eruption caused by the ova and larvæ of the hookworm is known as "ground itch." It is possible that the disease may be brought on by the swallowing of the larvæ incidental to unclean habits, the food being infected by dirty hands, or by the drinking of water containing the larvæ, but it is commonly believed that the number of worms ingested in this way is very small, and it has been found that nearly all of the subjects of the disease have also been the victims of ground itch, therefore it is considered that this round-about route is the most common method of infection.

To those who live in the northern states it might seem that this is a subject of no practical importance and of very little interest. To those who live in the southern states where the disease is endemic it might seem that the disease is so common and so well known that it is not worth while for the physician to spend any time in reading or writing about it. To those who live on the borders of regions where the disease is endemic where occasional cases are likely to be seen, it certainly is of great importance to be familiar with the disease and the modern methods of treatment. To all physicians it is a matter of interest to know the symptoms which the disease presents, and how it may be cured.

It is common to describe three classes of cases: The mild cases are characterized by pain and uneasiness in the abdomen. These symptoms are commonly attributed to indigestion, and rather apt to be more prominent on the right side of the abdomen; they may be accompanied by tenderness in that region. The pains are sometimes increased and at other times relieved by taking food. The appetite in some cases is diminished, and in others is increased. There may be headache and dizziness, and there is usually indisposition to any exertion, either mental or physical.

In cases of moderate severity the pain in the abdomen may be more pronounced, and the headache is usually commoner and more severe. There is dizziness and often tinnitus aurium. The mucous membranes and the conjunctivæ are pale; the skin dry; the appetite impaired; and there may be nausea and vomiting. Breathlessness on exertion is common, and there may be palpitation. The patient complains of fatigue and indisposition to exertion, and there may be fever.

In the more severe and advanced cases the anemia is more striking; the patient presents a pallid appearance and the conjunctivæ may show an icteric tinge. Edema of the feet and ankles is common, and sometimes there is general anasarca. There may be extensive ascites. The palpitation of the heart is severe, and dyspnea, even on the slightest exertion, is considerable. The pulse is weak and compressible, and there may be pain in the precordial region. The dizziness and tinnitus are generally very troublesome. Dimness of sight is common, and the pupils may be dilated. Often there is sleeplessness. The muscles, though apparently plump and well-nourished, are weak, and the patient is absolutely unable to do anything. Often there is considerable fever, which is, as usual, higher in the afternoon.

The examination of the feces is of great importance, both from a diagnostic and a therapeutic point of view. While in regions where the disease is endemic the general symptoms, especially the anemia and the indisposition to exertion, may lead to a presumptive diagnosis which is generally correct, the only accurate diagnosis is based on finding the eggs or the worms in the feces, and these should be carefully examined in every suspected case. After the treatment has been carried out, the only way of definitely determining whether or not the cure is complete is by examining the fecal matter and determining the absence from it of both worms and eggs.

PROPHYLACTIC TREATMENT

The treatment may be considered under three heads. The prophylactic treatment is of great importance both to the individual and to the community. As has been stated, the disease is spread by neglect in providing for suitable disposal of the discharges from the rectum. In warm climates where the disease prevails among the poorer classes of society the methods of sewerage employed in cities are unknown, and the majority of people deposit their feces in whatever situation, in field or forest, they may happen to be when the desire comes on them. When sanitary legislation reaches the point that the transmission of infectious disease by the feces is almost impossible, there will be no further danger of the transmission of this disease to uninfected persons. This of course is an immense problem, but one which it seems likely will necessarily have to be met, even in country districts, sooner or later.

The second point in the prophylaxis is the prompt curing of all sufferers from the disease. When this has been accomplished, of course the necessity of the first will be less urgent, but the carrying out of one proposal is almost as difficult as the other, and the first proposition is the most important, because the improper care of the feces results in transmission not only of this disease, but also of several others.

The individual prophylaxis, to be observed by persons living in regions where the disease is endemic consists, in the first place, of protecting the feet and legs by wearing shoes which will keep the dirt and sand away from the skin. Of less importance, but still also to be observed are cleanliness of the hands, care in the preparation of food, and the avoidance of water which may be infected. This may be accomplished by using filtered, distilled, or boiled water.

MEDICINAL TREATMENT

Several drugs have been recommended in the treatment of this disease; the most important are turpentine, oil of eucalyptus, betanaphthol, and thymol. Of these the evidence is very strong that thymol is the most useful and safest, and is fairly entitled to be termed a specific. When this drug is used the patient should be prepared for the treatment by being compelled to fast during the greater part or the whole of the previous day. The previous night he should receive a sufficient dose of magnesium sulphate to produce several watery movements. In the morning, before food of any sort has been taken, the thymol may be administered. The dose may be divided into two or three parts, which may be taken at intervals of one or two hours. The whole amount administered in any one day should be 3.0 grams (45 grains). Two hours after the last dose, another dose of the sulphate of magnesium should be given. It will be found that the thymol, having attacked the worms, has either destroyed them, or at least lessened their vitality to such an extent that they have loosened their hold on the mucous membranes, and the final dose of the Epsom salt will carry them out of the intestine.

It is important that the intestine should be so far as possible empty when the drug is taken, and the preliminary dose of magnesium sulphate not only washes out the food debris, but also the mucus in the intestinal canal in which many of the worms are often imbedded. The action of the drug is desired on the worms in the canal, and it is in no way desirable, in fact it is undesirable, that the thymol should be absorbed. Consequently, no fatty food, alcohol or oil should be taken lest absorption be caused. Castor oil should not be given as a cathartic, although senna may be substituted for the sulphate of magnesium, but it is no better.

The treatment with thymol should be repeated at intervals of three or four days or a week. Stiles, who has given very explicit directions for the treatment of this disease, recommends that the treatment should be commenced on Saturday and carried out on Sunday, and that it should be repeated on successive Sundays until examination of the feces shows entire absence both of the eggs and of the worms.

Finally it remains to speak of the treatment of the results of the infection. It is surprising with what rapidity patients commence to improve after the worms have been removed by the use of thymol; however, the administration of iron will hasten the recovery from the anemia. No form of iron is more useful than the fresh Blaud pill (pilulæ ferri carbonatis) in a dose of 0.20 gram (3 grains) three times a day, after meals; or the reduced iron (ferrum reductum), in dry capsules, in dose of 0.10 gram (2 grains), three times a day, after meals; or the tincture of iron (tinctura ferri chlorid) in a dose of from 3 to 5 drops, in fresh lemonade or other sour mixture, three times a day, after meals; or the patient, if a young child, may be given an *Eisenzucher* tablet (saccharated iron oxid), each 3 grains, to chew up like candy, thrice daily, after meals.

The tincture of iron may be well ordered as follows:

℞	c.c.		
Tincturæ ferri chloridi	5		fl.3iss
Syrupi acidi citrici	25	or	fl.℥i
Aquæ ad	100		ad fl.℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

℞	c.c.		
Tincturæ ferri chloridi	5		fl.3iss
Acidi phosphorici diluti	10		
Glycerini	10	or	āā fl.3iij
Aquæ ad	100		ad fl.℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

Or

℞	c.c.		
Tincturæ ferri chloridi	5	or	fl.3iss
Elixiris aromatici ad	100		ad fl.℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

As has been repeatedly urged, there is absolutely no necessity for the administration of any other form of iron, than those above mentioned. No organic iron can possibly do the physiologic or therapeutic work of the above irons, or do it any more pleasantly. If one adds to the above list the syrup of the iodid of iron, no other iron preparation is needed in the Pharmacopeia, and it is probable that a small dose of sodium iodid, administered at the same time or during the same day as one of the above iron preparations, would do better iron and iodid work than the iron iodid, certainly as good.

THYMOL, U. S. P.: THYMIC ACID

Description.—Thymol, genitive *thymolis,* is a phenol obtained from the oil of thyme (*Thymus vulgaris*). It occurs as large, colorless crystals, insoluble in water, but soluble in alcohol and in oils. Thymol is incompatible with a large number of drugs, such as acetanilid, antipyrin, camphor, chloral, menthol, and quinin.

Action.—It is slightly irritant to the skin, and very irritant, in concentrated solutions, to mucous membranes. If taken in the form of crystals, it is very slowly absorbed, unless fat or oil is taken with it or soon after it. It acts externally and in the alimentary tract

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as an antiseptic. It is much less soluble than phenol (carbolic acid) in the fluids of the stomach and intestine, and therefore much less readily absorbed; however, when much is absorbed, the symptoms are those of phenol poisoning. It is excreted by the urine in combination with glycuronic and sulphuric acids. Part of it is oxidized. During the excretion it may cause considerable kidney irritation, and if in large amount, even inflammation of the kidneys.

Action of a Therapeutic Dose, or the Primary Physiologic Action.—There should be no evident action from thymol, except locally the action of an antiseptic and internally the lessening of bowel fermentation and putrefaction, and the killing or stupefying of intestinal parasites. Any systemic effects are undesired, and are those of depression or beginning poisoning.

A *toxic* dose or toxic absorption gives symptoms of circulatory and muscular weakness, tremblings, cerebral irritation, renal irritation, and collapse. The treatment would be washing out of the stomach; a brisk saline purgative, as magnesium sulphate; circulatory stimulation; and other treatments indicated in phenol poisoning.

Therapy.—Thymol is too expensive to use as a general external antiseptic, and too sweet in order for use on wounds, ulcers, etc., as its odor is very attractive to flies, which is, of course, very undesirable. It is antiseptic in 0.1 per cent. solution, and has been used in this strength and much weaker for mouth washes and gargles; also in oily solutions as sprays for the nose and throat. Unless the solution is a weak one, it is irritant to the mucous membrane. It may be used as an antiseptic gargle in follicular tonsillitis and diphtheria, but peroxid of hydrogen solutions are much better. Thymol ointments in strength of from 5 to 10 per cent. have been used in various skin diseases, especially when there is itching. Lotions in weak solution have been used with advantage in various forms of pruritus.

As an intestinal antiseptic in diarrheas and in typhoid fever thymol has been generally used. It has no advantage, however, over salol (phenyl salicylate), and may cause more general disturbance. The principal use for thymol is as a specific in uncinariasis. It has also been used as an anthelmintic against the tape-worm and the round-worm.

Official Preparations.—Thymol enters into the composition of *Liquor antisepticus* (U. S. P.), and *Liquor antisepticus alkalinus* (N. F.), both used as gargles and mouth washes. Both preparations should be diluted for use. The dose of thymol itself is 0.10 gram (2 grains), best administered in capsules and never taken on an empty stomach unless a large amount of water or other liquid is taken at the same time.

Administration.—As already stated, the principal use for thymol is against the ankylostoma or uncinaria. It is here given in large doses on the morning following brisk catharsis. The best method is to order it in capsules, and then have the patient uncap the capsule at the moment of taking, and take it with a cup of tea or coffee, without milk, or a cup of plain hot water. It is unwise to give the patient milk or any other food at the time the thymol is administered, as it is desired that the intestinal parasites shall partake of the thymol, and food might interfere with the object desired. For action on this parasite the drug may be ordered as follows:

℞	Gm.		
Thymolis	5	or	gr.lxxv

Fac capsulas 10.

Sig.: Take three capsules, with plenty of hot water or other hot liquid, at once, and repeat in one hour.

As stated, it is presumed that cathartic action has taken place either early in the morning or during the night, and the first dose of the anthelmintic should be at seven, and the next at eight o'clock. In from two to four hours magnesium sulphate should be administered, and one hour after this saline, the patient may receive food. This treatment should be repeated in a week.

SOLUTIONS FOR USE IN THE EARS

℞	Gm. or c.c.		
Cocainæ hydrochloridi	0|20		gr.iv
Sodii boratis	0|50		gr.x
Solutionis epinephrin (1-1000)	5	or	
Glycerini	5		ȧȧfl.ʒiss
Aquæ camphoræ	ad 50		ad fl.ʒii

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Cocainæ hydrochloridi	0|15		gr.iii
Acidi borici	0|25	or	gr.v
Glycerini	10		fl.ʒiii
Aquæ	ad 25		ad fl.ʒi

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Acidi borici	2		gr.xxxv
Tincturæ opii	10	or	fl.ʒiii
Glycerini	20		fl.ʒvi
Aquæ	ad 50		ad fl.ʒii

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Epinephrini chloridi	0|03		gr.½
Glycerini	20	or	fl.ʒvi
Aquæ	ad 50		ad fl.ʒii

M. et Sig.: Ear drops. Warm before using.

EYE DROPS

℞	Gm. or c.c.		
Acidi borici	0|25		gr.v
Aquæ camphoræ	15	or	fl.ʒv
Aquæ	ad 25		ad fl.ʒi

M. et Sig.: Eye drops.

℞	Gm. or c.c.		
Sodii boratis	5	or	ʒiss
Aquæ	ad 100		fl.ʒiv

M. et Sig.: Eye wash. Warm before using.

℞	Gm. or c.c.		
Zinci sulphatis	0|10	or	gr.ii
Aquæ	50		fl.ʒii

M. et Sig.: Eye drops.

FOR TOOTHACHE

℞	Gm. or c.c.		
Tincturæ opii	10		
Olei caryophylli	10	or	ȧȧfl.ʒiiss

M. et Sig.: Rub on the gum, or apply with cotton to cavity.

Syphilis and Pauperism.—It is a matter of incalculable importance for society in general and for the community in particular to preserve the productive forces instead of losing them. Prevention, and prompt treatment of syphilis can save great sufferings and heavy expenses. It is much cheaper to treat syphilis promptly and thoroughly than to leave infected people uncared for, and thus wait until the affection becomes a permanent infirmity with the consequent disability. Preventive measures for diseases are indeed economical. These may be formulated in four paragraphs as follows: (1) Instruction and education increase the standard of morality and inculcate high respect for women. (2) Diminish the overcrowding in the tenement houses. In factories and establishments where girls and boys are employed, rules of strict respect for each other must be enforced. (3) Those who have been infected with syphilis must be treated. Hospitals should take care of venereal patients, and dispensaries should be within easy reach of everybody. (4) Prostitution should be under municipal surveillance, and infected prostitutes should not be allowed to remain at large, but should be confined in hospitals and kept under treatment until the manifestations of lues are no longer dangerous for transmission.—A. Ravogli, in *Interstate Medical Journal.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

[For other information see second page following reading matter]

SATURDAY, APRIL 15, 1911

ANCIENT EGYPTIANS AND MODERN MEDICINE

When, in 1907, it was decided to increase the height of the great dam at Assuan, the Egyptian government sought to lessen, as far as possible, the destruction of the monuments and relics of ancient life on the Nile, by securing for scientific study as much as possible of the most valuable material which would be submerged by the rise of the waters. Numerous cemeteries on both banks of the river were explored, and no less than 6,000 bodies, representing burials during a period of 5,000 years, became available for study. Dr. Elliot Smith, professor of anatomy in the medical school at Cairo, who had already done much work with similar material, was in charge of the anthropological investigations, and largely because of his understanding of pathology the results as reported contain much of medical interest.[1]

It seems that even six thousand years ago, in predynastic times, the population of the Nile valley was comparatively highly civilized, so that the history of civilization must go back much farther than the sixty centuries it can now be followed. During all that time man has been afflicted by at least some of the same diseases from which he now suffers, although perhaps not to the same degree. Professor Smith found no positive evidence of syphilis in the Nubians; tuberculosis was apparently uncommon, and the characteristic skeletal changes of rachitis were not observed. Rheumatoid arthritis seems to have been prevalent, especially in predynastic times. Urinary calculi were occasionally found, and one predynastic calculus analyzed by Shattock was found to be composed of a central body of urates and a shell of phosphates, indicating that six thousand years ago, as now, urate calculi caused cystitis and ammoniacal decomposition of the urine. The *Micrococcus ureæ* is probably quite as old as civilization. Fibrous adhesions around the appendix give the lie to jests about the "new-fangled fad of appendicitis." Gout left its traces in the form of "chalk stones" then as now; but caries of the teeth did not make its appearance until the early dynasties, first being found in the wealthier classes, and not becoming common to the masses until Christian times. Surely there was at this time no change from whole wheat to white flour—the cause to which our British colleagues are now ascribing the modern prevalence of dental troubles.

The chemists have also examined mummy material to some extent. Embalming as practiced by the Egyptians consisted simply in removing most of the viscera, pickling with salt, and letting the dry climate do the rest. Such preserved tissues, even after centuries, retain some of their original characteristics. When softened by soaking in weak alkali the different organs can be identified; the tubules of the kidney and the different layers of the skin are still recognizable (Ruffer).[2] A desiccated heart contained in a vase in the Louvre, and supposed to have been the circulatory center of Rameses II about thirty-one centuries ago, was found to show still the structure characteristic of cardiac muscle.[3] The fatty elements seem to resist chemical change especially well, and infiltrate the tissues in replacement of the decomposing elements.[4] The proteins remain in small part apparently unaltered and coagulable by heat, although they are largely decomposed into proteoses and other cleavage products. In the mummified tissues the usual amino-acids of proteins can be found.[5] It would seem that the biologic characteristics of the proteins are lost before the chemical, for most of the attempts to secure the precipitin reaction with mummy proteins have been unsuccessful. Only with the extremely delicate anaphylaxis reaction can the human origin of mummy tissues be established.[6]

1. The Archeological Survey of Nubia, 1907-8, vol. ii, Drs. G. Elliot Smith and F. Wood Jones. A full review is given in Nature, 1910, lxxxv, 310.

2. Ruffer, M. A.: Histology of Egyptian Mummies, Brit. Med. Jour., April 24, 1909.
3. Brit. Med. Jour., April 28, 1906.
4. Schmidt: Ztschr. f. allg. Physiol., 1907, vii, 369.
5. Abderhalden and Brahm: Ztschr. f. physiol. Chem., 1909, lxi, 4.
6. Uhlenhuth: Ztschr. f. Immunitätsforsch., 1910, iv, 774.

INDIVIDUAL LIBERTY AND THE PUBLIC WELFARE

Legislation limiting women's labor to fifty-four hours a week is opposed by a representative of a manufacturers' association on grounds of pure chivalry—because this official is for woman, and believes in placing no restriction whatever on her activities. We are reluctant to align ourselves with those cynics who profess to feel suspicion when they see a representative of a manufacturers' association suddenly aroused to tender concern for the abstract rights of womanhood, or when they see the same association generously and disinterestedly engaged in vindicating those rights. Doubtless the members of the association are perfectly sincere in their belief that they know best what working women really want, and that they know better what is good for women than do the sociologists and physicians who have studied the question. We are even ready to credit these manufacturers with faith in the amusing arguments of their representative. The human mind is organized with a marvelous and almost unlimited capacity for belief.

The arguments in favor of "emancipating" woman by permitting her to work twelve, fourteen, sixteen or even eighteen hours a day if the fancy strikes her (and if she can find a kind-hearted employer willing to humor her little whim), seem good material for the cartoonists and paragraphers, but too flimsy to deserve refutation in a serious periodical; and, indeed, we should not mention them except that the underlying assumption is one which still has weight with many persons, and one on which the opponents of public health measures always rely. This assumption is that law is the only social agency which interferes with the freedom of the individual, and that a law prohibiting an individual from doing any act necessarily limits that individual's liberty. Compulsory vaccination, government supervision over foods and drugs, local option, the enforcement of quarantine, the compulsory reporting of contagious diseases—in fact, almost all measures for the public welfare—are bitterly decried in some quarters as infringements on the liberty of the individual. In the present instance, a few sorely misjudged philanthropists are determined that working women shall not be allowed to part with an unprofitable abstract right which the latter would like to exchange for more practical freedom.

It will be a gain for the world when the academic concept of absolute liberty departs at last to that limbo set apart for theoretical abstractions which have no relation to practical affairs. Absolute liberty is as impossible of achievement as a perfect vacuum, and as inconsistent with the conditions of life. We live in the midst of coercions, physical, social, economic and legal; and often a technical prohibition is actual release from oppressive compulsion. Effective freedom is built up as much of limitations as of opportunities. No one can draw breath and be entirely ignorant of this principle, yet so many disregard it that it is worth while for those who are working for reform in matters of public health and welfare to see to it that the public not only knows wherein its freedom consists, but realizes it.

THE EFFECT OF EXERCISE ON THE BLOOD-PRESSURE AND PULSE

A systematic investigation of the effects of various forms of exercise on the systolic, diastolic and pulse-pressures and on the pulse-rate has been carried out by Dr. O. S. Lowsley.[1] The observations were made on healthy men, mostly young athletes who were in training, and the results obtained were about what might have been expected. The blood-pressure and the pulse-rate were universally increased during exercise and were found to be above normal even at the end of periods of very exhausting work.

In this Lowsley's observations differ from those of certain other investigators, and he attributes this to the fact that he was able to take observations immediately after the cessation of exercise, before the subsequent subnormal phase had set in. After exercise there is a period of subnormal blood-pressure, and the more exhausting the exercise, the more marked and prolonged will this phase be. The rapidity with which the pulse-rate drops to normal is also determined by the degree of exhaustion. There is often observed, however, a secondary rise in rate during the period of subnormal blood-pressure. Very violent exercise of even a few seconds, as in the running of a hundred-yard dash, causes a much more pronounced and lasting negative phase than does more prolonged but moderate work. Gräupner has shown that mild rapid exercise causes a rise in blood-pressure in normal individuals which outlasts the period of acceleration of the pulse, while in individuals with weak hearts the blood-pressure falls before the pulse-rate has reached normal.

Lowsley suggests that the duration of the negative phase is a very fair index of the strain on the circulatory system and that the test might be used in determining the fitness of any individual for the performance of certain forms of exercise. He believes that if the negative phase lasts less than an hour it may be considered well within the "hygienic limit," but that if it lasts more than two hours it is a sign that the margin of safety has been exceeded. Physical directors have been obliged to depend largely on their general impression of the effects of races, games, etc., on their charges, except in the elimination of those who are obviously unfit, and such a measurable factor should be of considerable help to them in deciding the qualifications of those who are apparently sound.

1. Am. Jour. Phys., March 1, 1911.

SOCIOLOGY AND MEDICINE

The problems of sociology are, in most instances, problems of preventive medicine, and many of the problems of preventive medicine resolve themselves into sociologic questions. The cure of disease in its larger aspect lies in its prevention in the individual, the community, the state. Medicine in its practical application must inevitably become almost wholly a problem of prevention. This involves its operation on the mass rather than the individual, and, therefore, it becomes a sociologic problem, with the knowledge acquired through the study of pure science to aid in its solution. Waiting for disease to arise in the individual, and then attacking it, involves an enormous economic waste, a waste of time, energy, earnings, efficiency, of life itself, to say nothing of the suffering, which causes a waste of nerve force, or of the tax on those immediately surrounding the individual and charged with his care. Likewise, philanthropy, state or private, directed to the relief of individual suffering and disease due directly or indirectly to faulty sociologic or industrial conditions, even though at present commendable and necessary from the humanitarian standpoint, means a tremendous waste. The vast public appropriations for hospitals and sanatoriums for the care of individuals suffering from contagious and

infectious diseases — tuberculosis for instance — when weighed against prevention really constitute a waste. Prevention means the saving of most of this waste.

As great strides are being made in the acquisition of ultimate scientific knowledge, so also real progress is being made on the side of preventive medicine involving sociologic questions. A mere enumeration of some of the enacted and proposed legislative measures along the lines of public health and welfare will illustrate the point. The national Food and Drugs Act, supplemented by state and municipal enactments concerning milk and other foods; quarantine laws, the reporting and supervision of epidemic and other contagious and infectious diseases; compulsory vaccination; the investigation and regulating of public water-supplies, sewage disposal, etc., and, coming more truly within the realm of the sociologic, child labor laws, and laws concerning minimum wage and minimum hours of labor for both men and women; employers' liability laws; laws compelling the employment of safety devices in industrial pursuits; laws against the use of injurious chemicals in the arts; the establishment of public playgrounds; laws regulating the building of tenements, factories, etc., providing for proper light and air space; school inspection and open-air schools; laws to secure better housing conditions, better hygienic conditions in prisons, etc., and for the regulation or prevention of the social vices—all of these are problems of preventive medicine. Many of these measures have been enacted into laws and carried into effect either nationally or locally, and most of these topics are at the present time the subject of active agitation in the newspapers, in the magazines, in medical and sociologic associations, in congress or in the legislatures.

Seemingly, a good deal has been accomplished along these lines, but really only a beginning has been made. The problems of prevention may never attain complete solution, just as medicine may never become an exact science; but in both we are surely progressing. The sociologic problems of preventive medicine which have attained partial solution so far have been solved by the strenuous fighting of the physicians—the scientists—aided by the sociologists, advanced thinkers, the so-called theorists or reformers, who have had to contend every inch of the way against the reactionaries who have failed to see their own real interests. More recently, however, the practical mind has been made to see the material advantage in measures that were formerly thought to be merely visionary; and so we find a more liberal and tractable attitude on the part of councils, legislatures and congresses, corporations and individuals along lines that make for the public health and welfare, such as improvement in factory and other industrial conditions, the prevention of injuries, first aid, sick benefits, workmen's compensation laws, shorter hours of labor, minimum wage questions, and better housing conditions; and, in addition, we have the tremendous public activity in general hygienic and health matters.

In many of these measures of prevention we are behind foreign countries, as in the protection of workmen from injury and from occupational diseases in industrial pursuits, and in employers' liability and workmen's compensation laws. But the importance and justice of these things are becoming recognized by the employers of labor here, who realize that they have no moral right to exploit their employees under unhygienic or dangerous conditions to life and limb, and throw on the community the burden of caring for incapacitated wage-earners or their dependents. The injustice of this policy has reached the point of national recognition, and the President in 1910 approved a resolution adopted by Congress, calling for an official investigation of this matter. Opposition to such beneficent measures will, of course, always exist, and reactionary measures will be attempted, as in the instance of the efforts to abolish the tuberculin test of cattle in Illinois and Wisconsin, and the recent opposition of the secretary of the Illinois Manufacturers' Association to the limitation of the hours of labor of women in all occupations in Illinois to fifty-four hours a week. But the tide of progress in these sociologic measures of preventive medicine cannot be permanently stemmed, and along with legislation for a national department of public health—another measure whose object is prevention—they will be adopted sooner or later. Progress in knowledge is never along direct lines, but always in zigzags, which nevertheless end farther forward than where they started.

Current Comment

NEW AND NONOFFICIAL REMEDIES IN THIS ISSUE

A little over six years ago the Council on Pharmacy and Chemistry was created. No medical organization or society has caused such a revolution as has this Council in the six years it has been in existence. The nature of this revolution is known to all readers of THE JOURNAL, and it is not necessary to enlarge on it. The work of the Council has been both critical and constructive. The constructive part has resulted in the publication of an annual known as New and Nonofficial Remedies, or, in brief, N.N.R. This annual contains a list of the preparations which have been accepted by the Council; in other words, the preparations which have complied with the ten rules adopted. Practically all these articles are proprietary preparations, and N.N.R. is the only book, so far as we know, to which a physician can go for accurate information, impartially presented, regarding such medicines. The manufacturers may be depended on to furnish the medical profession with plenty of statements of the optimistic kind, but the better class of medical men to-day are not so easily satisfied with such information as they were five or six years ago. In order that every reader of THE JOURNAL may have it on hand for convenient reference, N.N.R. for 1911 is sent as Part II of this issue. It is recommended that this book be examined critically, and especially is it urged

that physicians read the rules, which are printed in the front of the book, bearing in mind that these rules represent the principles on which a preparation is accepted or rejected. Much thought was given to the preparation of these rules, and the Council believes that they represent just principles. If our readers agree with the Council, then they certainly ought to limit their prescribing to those proprietaries which have been accepted. The Council has decided favorably or unfavorably concerning practically all the proprietary medicines on the American market; hence it is safe to assume that those not included in N.N.R. have not been accepted because their manufacturers either could not or would not make them conform to the rules.

PENNSYLVANIA MILK INSPECTION

The state health officers of Pennsylvania are making the seventh inspection of the more than 40,000 premises producing milk for sale. This work in Pennsylvania is said to be done in a more comprehensive way than has been attempted in any other state. The inspection is not only extended to premises producing milk for wholesale or retail distribution, but is made on every farm producing milk for sale to creameries, butter-making establishments, cheese factories, condensories, etc., and even includes dairy farms where the product is worked up at home for sale in the markets. The health department's inspection is purely a sanitary one and deals with the cleanliness of the cow, of the stable, the cow-yard, the milk-house, with cleanliness on the part of the milker and the purity of the water used about the dairy farm and milk house. It is entirely different from that conducted by the state veterinarian, who concerns himself with the health of the herd, and that by the dairy and food commissioner, who limits himself to the use of preservatives and adulterants in the milk. These different forms of supervision of milk production and distribution should insure a vast improvement in the quality of the milk-supply and be reflected in the general health conditions in the state.

FACTORS IN RAILWAY ACCIDENTS

According to Accident Bulletin 37 of the Interstate Commerce Commission, the number of persons killed in train accidents during July, August and September, 1910, was 321, and the number of the injured was 3,892. "Accidents of other kinds" are said to have numbered 22,328—2,948 persons having been killed and 19,380 injured. This includes those accidents sustained by employees while at work, by passengers in getting on or off cars, by travelers at highway crossings, by persons doing business at stations, etc., by trespassers, and others; but excludes "industrial accidents" and accidents to employees resulting only in slight injury. These figures, which read like statistics from some seat of war, are, it should be remembered, for but one quarter of the year and for the single industry of transportation. Some accidents, as clearly appears from the bulletin, are due to the element of human fallibility, as, when an engineer fails to heed a signal, or an operator delivers an incorrect order. They indicate the need for installing, wherever possible, safety devices, in regard to which Europe is said to be far ahead of the United States. Another cause alleged by a practical railroad man[1] is a tendency among railroad employees to make haste by cutting red tape. A third cause is the deliberate, cynical disregard of human safety which foreign observers are prone to consider an American characteristic. This is a factor which is not evident in the accident bulletins; but that community is fortunate which has no witness to its presence. Chicago, for instance, has the notorious "death-strip," a section of double street-car tracks laid so close as barely to permit cars going in opposite directions to clear each other, thus sentencing to be crushed to death any unfortunate—young child, aged, infirm, uninformed or merely heedless person—who happens to be caught between two such cars. This particular strip was constructed with full knowledge of its possibilities, the street-railway companies offering the amazing extenuation that the public would "become educated" to the danger. This expectation, it may be added, has been justified; at least, those members of the public whose education has been finished on the "death-strip" would now fill a small cemetery. This is merely one example. There are others in other cities. When the people are awakened to the possibilities and the necessities of the whole situation there will be a change. The reputation of this country for carelessness with regard to human life is not an enviable one.

COMMERCIAL UNTRUTHFULNESS—A PASSING EVIL

Among Europeans it has long been held that exaggeration, hyperbole, even humbug, is a characteristic that finds its highest development in the United States. We have been told this so often that, as a nation, we have almost come to believe it ourselves. Particularly, it is alleged, has this trait been prominent in the commercial world. It is true that in the past the protection accorded the American consumer has been largely a matter of academic interest rather than of practical legislation. Even to-day the man in the street purchases as "all wool" clothes made of a mixture of shoddy and cotton. In matters more closely connected with his life and health, however, the American citizen receives a greater degree of protection than is accorded the citizen of any European state. The passage of the federal Food and Drugs Act and its enforcement by honest and efficient officials have done much to safeguard the American people from those who would jeopardize the health of the nation for their own financial advantage. In a field peculiarly its own, the American Medical Association through THE JOURNAL and the Council on Pharmacy and Chemistry, has undertaken a task such as has been attempted in no other country—that of giving reliable information regarding medicinal products of a proprietary nature used by the medical profession. Untruthfulness and even exaggeration regarding the virtues of products put out for the use of physicians in treating the sick, is a lesser evil in the United States than it is in any

1. Fagan, T. O.: Confessions of a Railroad Signalman, Houghton, Mifflin & Co., Boston, 1908.

European country. Yet less than a decade ago there was probably more fraud in the exploitation of proprietary medicines in the United States than existed anywhere else in the world. Thanks to a vigorous campaign carried on both by enlightened laymen and by the organized medical profession, the public consciousness has been awakened and the United States, instead of standing lowest in the scale of commercial probity regarding the sale of medicinal products, now stands at the head. That this fact is recognized by intelligent Europeans is evident from an editorial by Professor W. Heubner of Göttingen, a translation of which appears on another page.[1] We believe that, so far as pharmaceutical products are concerned, the American public is better protected, and the American medical profession more reliably informed, than is the public or the medical profession of any other country in the world.

ANIMAL EXPERIMENTATION BY CLERGYMAN SCIENTIST

According to a recent number of the Pittsburg *Christian Advocate*, the Rev. Maitland Alexander, pastor of the First Presbyterian Church of Pittsburg, is carrying on a series of experiments on monkeys in the hope of finding a serum for infantile paralysis. It seems that the Rev. Mr. Alexander has worldly possessions which enable him to interest himself in any avocation and that he has taken up scientific work, in addition to his professional duties, in the hope of helping to check the awful ravages of infantile diseases. The *Advocate* thinks it strange that some sentimentalists have not tried to create a public sentiment against Dr. Alexander and his associates for their use of monkeys. That this has not been done is truly surprising; doubtless the fact has not yet been brought to the attention of *Life*.

POSOLOGY

The determination of the proper dose of medicine is often a difficult problem; and the following from Manquat's "Principles of Therapeutics" is worth quoting:

> We should like to note that it is not good practice to seek to secure complete functional correction by means of drugs. If, through hygiene, the organism is placed under the conditions of optimum of function, a small dose often suffices to bring about restoration of the disturbed function. It is often better to be content with improvement and modestly live according to appropriate hygiene rather than to seek the medicamental triumph of complete functional restoration which will not last. A patient with mitral stenosis, for instance, who knows enough not to ask of his heart more than it can give, will have the greatest chances of continuing long without the aid of medicinal assistance; and when one is at last obliged to resort to digitalis, minute doses, as has been shown by Dr. Huchard, are to be prescribed. To content oneself with producing diuresis, through theobromin, in a patient suffering from renal insufficiency would be a reprehensible practice; it is better, first, to restrain all the endogenous and exogenous intoxications, and prescribe only small doses of the diuretic remedy, which can be repeated whenever necessary. The patient's mode of life and alimentation should first of all be adjusted to his functional forces, while medicinal intervention should be regarded as a therapeutic adjunct. There is a case, however, in which a large dose is demanded from the beginning; that is, in the presence of an accident menacing life, when an active medicament alone can restore the adequate function of the failing organ. Such is in particular the case in cardiac asthenia capable of endangering life, or in an alarming dyspnea, or in sudden anuria, in which large functional doses are necessary. There should then be no hesitation in seeking energetic action, unless some positive contra-indication exists. The patient's salvation may depend on such action.

The principles stated are correct. The drug is to be regarded only as a staff to assist lightly over the difficult places, and not as a strong crutch to bear the whole burden. First throw away the pack and the other impedimenta; give entire freedom of action to all the natural forces; assist by the staff only as actually needed and the steep will be surmounted. But when there is danger of falling over the precipice, then the most vigorous assistance must be supplied on the instant. The practical application of Manquat's plan, selecting in each instance the proper drug in the proper dose, and for the proper length of time, is a matter of knowledge, experience and the nicest discrimination.

UNIFORMITY IN DEATH CERTIFICATES

The increasing attention paid to vital statistics by the present Director of the Census cannot fail to be gratifying to physicians. For the accurate collection and tabulation of mortality statistics, not only is it necessary that uniform laws be adopted and enforced in the different states; it is also essential that local registrars, and especially physicians, follow a uniform system of nomenclature in filling out death certificates and reports. The American Medical Association for several years has had a Committee on Nomenclature and Classification of Diseases, which is cooperating with others, with a view to securing greater uniformity in terminology. Representatives of the various civilized governments (the United States included) have prepared an international list of causes of death which has been adopted by over twenty of the leading nations. In order to place this list in convenient form for ready reference by physicians, the bureau of the census is distributing to physicians, in large quantities, a pocket reference list in which are tabulated 189 causes of death, with notations showing the proper form in which the causes of death should be reported. The pamphlet also contains a list of undesirable terms and the history of the extension of the registration area in the United States. It is convenient in form and should be in the hands of every practicing physician. Any physician who has not already received a copy from the census bureau can secure one by addressing a postal card to the Director of the Census, Washington, D. C. General cooperation in the use of a uniform nomenclature will greatly increase the value of our vital statistic figures and reports.

1. Page 1155, this issue, abstract 106.

AN EARLY EXPONENT OF THE GERM THEORY

Long before Pasteur demonstrated the relation of germs to disease, and 163 years before the discovery of the tubercle bacillus by Koch, Benjamin Marten, M.D., of London, is said to have published a book in which he set forth in considerable detail a theory of disease that covers in a surprising way the present accepted germ theory. His book, dated 1720, is entitled "A New Theory of Consumptions, More Especially of a Phthisis or Consumption of the Lungs." A number of copies of this book are in existence, one in the British Museum, and the February issue of *Janus* contains a reproduction of the title-page, and an article by C. A. Singer, in which are quoted at length the exact words of Marten in which he elaborates his theory. Speaking of "consumptions" in general, he says: "The original and essential cause, then, . . . may possibly be some certain species of animalcula or wonderfully minute living creatures, that by their peculiar shape, or disagreeable parts, are inimicable to our nature," and they may gain access to our bodies by the air we breathe, the food we eat and the liquor we drink, or perhaps in other unknown ways, and "being there deposited in a proper nidus or nest and being produced into life, coming to perfection or increasing in bigness, may by their spontaneous motion and injurious parts . . . cause all the disorders that have been mentioned," viz., plague, venereal disease, measles, small-pox, the "common rheum" and leprosy. He then develops this theory so as to account for tuberculosis of the lungs, and states his belief that if he had had glasses strong enough he would have been able to see these minute organisms. He discusses the possibility of intra-uterine or hereditary transmission, remarks that it is reasonable to suppose that specific diseases are due to specific organisms, and considers epidemic diseases in the light of his theory. He calls attention to diseases that seem to be communicated by contact, and from the fact that scabies is transmitted in this manner and is due to a little animal that could be seen by the glass, thinks it reasonable to conclude that syphilis might be carried in much the same way, although the organism could not be seen. He did not believe that all diseases were due to such organisms, but that those named probably were. He advanced this idea only as a theory, and in it he foreshadows the theory of bacterial toxins, for in speaking of treatment he recognizes the difficulty of killing the germs in the body, saying that even that would not cure the disease, as "their pernicious effects could not be supposed to be thereby so immediately cured, any more than destroying a dog that had bit a man could be supposed to cure the wound he had made with his teeth." It is astonishing how well, under the state of scientific knowledge at that time, he had worked out even details of his theory and how closely he skirted the reality. He thinks it is reasonable and probable, and hopes it will "afford sufficient hints to some able hand to carry the theory much farther than I have done, and, it may be, bring it to absolute demonstration." It was over a hundred years before this was done by Pasteur and Koch.

THE REFORMED ALMANAC AS A HEALTH EVANGELIST

From time immemorial the almanac has been the special advertising prerogative of the "patent medicine" company. Who does not find among the earliest recollections of his childhood the almanac with its medley of calendar, astronomical events, weather predictions, old jokes, medical advertisements and patients' testimonials? At least one such almanac was to be found in every household and it was, perhaps, the most frequently consulted book in the family possessions. To it the children went to find on what day of the week Christmas, New Year's, the Fourth of July and the family birthdays occurred. Mother and the girls always went to it to find when Easter was to come that year. Father was careful to look for the phases of the moon before doing his spring planting and grandmother used it to verify her predictions as to whether next winter would be mild or severe. Its value as an advertising medium was recognized by innumerable nostrum firms, which for years issued almanacs by the million copies. One of our later-day state board of health secretaries[1] has realized that if an almanac is a good thing to advertise nostrums it is an equally good thing to advertise health. The January-February number of the *Virginia Health Bulletin* is issued in the form of an almanac. It has the calendar by months, the phases of the moon, the time when the sun and moon rise and set for each day, the important historical events and all the other time-honored earmarks of almanacs, but instead of the musty jokes and stereotyped testimonials of patients "pronounced incurable by the doctors," but cured by two bottles and a half of Indian Bitters, it has sanitary aphorisms such as "An open window is better than an open grave," "A dirty well is more dangerous than a dirty kitchen," "A good iron pump costs less than a case of typhoid," "Good water is one of the best insurance policies a family can carry," "Two dollars for a doctor is cheaper than a hundred dollars for a funeral," "If your milk man brings warm milk, make it hot for him," "Wire screens in the window keep crape from the door," "Typhoid germs are small in size, but they are more expensive to keep than blooded horses," "A light overcoat is better than a heavy cold," "Many a cough ends in a coffin," "It is better to sleep in the fresh air than in the fresh grave." A special subject is assigned to each month—small-pox to January, pneumonia to February, measles to March, infants' complaints to May, typhoid to July, colds and influenza to November, and consumption to December—with a page of common-sense advice, in plain, simple language, under each topic. The Virginia Department of Health deserves hearty congratulations for its success in reforming one of our oldest family institutions and converting it into an evangel of health.

Syphilis and Cardiovascular Disease.—Syphilis as a cause of cardiovascular disease does not receive the attention its importance merits. Endarteritis with its consequences even to the extent of complete obliteration of vessels, especially in the heart and brain, can be traced to this disease.—C. W. Chapman, in the *Practitioner*.

1. Dr. E. G. Williams, Richmond, Va.

Medical News

COLORADO

Personal.—Dr. Frank R. Spencer, Boulder, has gone to Europe.——Dr. Edward Delehanty has been elected president of the staff of St. Joseph's Hospital, Denver, vice Dr. Samuel D. Hopkins, deceased.

Medical Department of City Library.—El Paso County Medical Society is planning to put its library of text-books and periodicals into the public library of Colorado Springs so that the public may have access to this literature.

Charges Graft.—Dr. Elizabeth Cassidy, chairman of the finance committee of the board of commissioners of Denver County, claims that there has been great extravagance or graft in the management of the affairs of the county institutions and is said to have withheld monthly payments until thorough investigation has been made.

GEORGIA

State Society Meeting.—The Medical Association of Georgia will hold its annual meeting in Rome, April 19-21, under the presidency of Dr. Edward C. Davis, Atlanta. The headquarters of the association will be at the Cherokee Hotel, and the business sessions will be held in the superior court room.

State Tuberculosis Camp Opened.—The State Tuberculosis Sanatorium, Alto, was formally opened, March 21. Seven patients immediately availed themselves of the opportunity for treatment. The capacity of the institution is at present seventy, but the buildings have been so constructed that 300 patients can be accommodated at comparatively no additional expense.

District Society Meetings.—At the annual meeting of the Seventh District Medical Society, held in Cartersville, March 9, the following officers were elected: president, Dr. William J. Shaw, Rome; vice-president, Dr. Alfred B. Greene, Cartersville, and secretary-treasurer, Dr. Tanner Lowry, Eucharlee. Cartersville was selected as the next place of meeting.——The Fourth District Medical Society held its annual meeting in Carrollton. Drs. Joseph N. McCormack, Bowling Green, Ky., and Edward C. Davis, Atlanta, president of the state association, delivered addresses, and the following officers were elected: president, Dr. Charles A. Dexter, Columbus; vice-president, Dr. H. J. Goodwin, Roopville, and secretary-treasurer, Dr. Homer Boatright, Carrollton. The next meeting of the society will be held in Greenville, September 19.

Personal.—Dr. S. Wicks Merritt, formerly of Baltimore, has been appointed superintendent of the new tuberculosis sanatorium built by Atlanta and Fulton Counties.——Drs. John F. Harris, William E. Wood, Harlan L. Erwin and Jesse G. McAfee have been appointed members of the board of health of Dalton.——Dr. R. P. Sorrells, Athens, has purchased a large interest in Pine Ridge Sanatorium for Tuberculosis and has been elected secretary-treasurer and business manager of the institution.——Dr. R. J. Horne has been elected a member of the faculty of the Medical College of Georgia, Augusta, and Dr. Noel M. Moore has been reelected a member of the governing board.——The governor has reappointed Dr. Francis M. Ridley, LaGrange, a member of the State Board of Medical Examiners, and Dr. Jarrett W. Palmer, Ailey, a member to succeed Dr. Isham H. Goss, Athens.

ILLINOIS

Personal.—Dr. Harry S. W. Spencer, Kankakee, is reported to be seriously ill with pneumonia.——Dr. George C. Lewis, Fairbury, has retired after thirty years of practice.

Donates a Purse to Missionary.—The Waukegan Physicians' Club has made a liberal contribution which has been given to Dr. Margaret S. Grant who leaves in the early summer for China where she intends to make an exhaustive study of the pneumonic plague.

Legislation.—Senate Bill No. 235 has passed the senate and is now in the house of representatives. There is, apparently, organized opposition against the bill in the house and this is directed toward Section 6-A, which aims to give the State Board of Health jurisdiction in the matter of revocation, over all licenses issued since 1877. Under existing conditions, a physician licensed before July 1, 1899, may deceive and defraud the public, may commit any crime, may even be sent to the penitentiary, and yet remain a licensed physician, as under the decision of the Supreme Court, the State Board of Health has no jurisdiction over licenses issued prior to July 1, 1899. Under these conditions the board is unable to protect the people from the impositions of frauds, quacks, charlatans and impostors, and is rendered impotent in what was intended to be one of its most important functions, namely: "To detect quacks and to prevent them and all ignorant pretenders from imposing on the sick and helpless." The bill does not in any manner increase the requirements now demanded of medical colleges, but is a step in the direction of a higher, better, more practical and more thorough medical education. The bill has been amended so as to provide that a medical college, whose students shall be licensed to practice temporarily in a hospital under the direction of the college, shall require as a prerequisite to graduation, a course of study extending over at least five calendar years.

Chicago

Personal.—Dr. Rosa Engelmann has returned after a year in Europe.——Dr. and Mrs. Arthur R. Reynolds have returned from California.——Dr. and Mrs. Archibald Church and son have returned from Ocean Springs.——Dr. Ernest A. Loewinger was assaulted by unknown persons, April 9, but was not seriously injured.——Dr. Winfield S. Hall has been elected as head of the local branch of the National Health League.

INDIANA

State Conference of Charities.—The twentieth annual state conference of charities and corrections will be held in Indianapolis, October 28-31. Prof. W. G. Weatherly will preside, and the principal addresses will be delivered by Jacob Riis, New York City; Prof. W. H. Bailey, of Cornell University, and Miss Jane Addams, of Hull House, Chicago.

State Red Cross Report.—The Indiana branch of the American Red Cross reports that in the biennium, ended March 24, seventeen cases of tuberculosis among the deserving poor had been treated, at an average expense of $15 a week. These patients were housed in cottages near Danville. Not a single death occurred and cure is expected in all the cases. The association has erected six cottages at South Bend and expects to erect four more in that place, four cottages at Terre Haute, two at Vincennes and six at Indianapolis.

To Benefit Hospital Service.—The late Alfred Burdsall has left his entire estate, amounting to $700,000, to public and charitable institutions of Indianapolis, subject to a life interest for his wife. One-half of the amount is, eventually, to be given to the city board of health for the improvement and benefit of the hospital service of Indianapolis and to provide homes for incurables. His library and $5,000 in cash are bequeathed to the Indiana Tuberculosis Hospital, Rockville, for the erection of a library building, and the remainder of the estate is to be devoted to local charities and the department of public parks of that city.

Health Week at Fort Wayne.—Health week at Fort Wayne was inaugurated March 27, and, during the week, afternoon and evening lectures and demonstrations were held. Samples of tuberculous meats were sent daily from Chicago for demonstration. Among the speakers of the week were Dr. William A. Evans, Health Commissioner of Chicago; G. W. Porter, of the Bureau of Animal Industry of the Department of Agriculture; Dr. W. F. King, Assistant Secretary of the Indiana State Board of Health; Dr. Mazyck P. Ravenel, of the University of Wisconsin; Dr. Alice Hamilton, of Hull House, Chicago; Miss Lenna Cooper, a dietitian of Battle Creek, and Mrs. Caroline Crane, the sanitary expert of Kalamazoo.

Personal.—Dr. James M. Dinnen, Fort Wayne, has been recommissioned as a member of the State Board of Medical Examination and Registration.——Dr. Paul E. Bowers, Indianapolis, has been appointed physician to the northern penitentiary, Michigan City, vice Dr. J. W. Milliken, who has been made deputy warden.——Dr. John H. Alexander and wife, Greensburg, were assaulted and severely beaten by a drunken man, April 2.——Dr. Henry Gers, Washington, state senator, is in a serious condition as the result of a recent cerebral hemorrhage.——In the suit of Dr. Charles F. Cluthe, Evansville, against the Big Four System, in which $35,000 damages were claimed on account of the passing of the railroad through his property, the jury has awarded the plaintiff $1,500.

Violations of Pure Food Law.—During the past two weeks, the following violations of the State Food and Drug Laws have been decided: Three druggists in Indianapolis have been arrested and fined for failing to state the amount of alcohol in paregoric; one druggist in Indianapolis, for selling an impure drug; an individual in Bicknell was fined $25.00 for spitting on the floor in a food institution; in Nappanee a fine was imposed for selling spirits of camphor below the United

States standard; in Hammond, there was a conviction for selling oleomargarine for butter; in Gary, one for selling dirty milk in a dirty container; in Waveland, one for selling apple cider containing benzoate of soda; in La Fontaine, one for selling blackberry cider containing benzoate of soda; and, in Bicknell, the proprietors of an insanitary restaurant and slaughterhouse were fined.

IOWA

County Tuberculosis Hospital.—The Polk County Board of Supervisors has decided to erect a tuberculosis hospital at a site selected on the county farm. The plans provide for the erection of a large tent to accommodate twenty patients, and a permanent building to be used as a kitchen and dining hall for the inmates. During the summer the construction of a permanent hospital will begin. It is stated that residents of Polk County suffering from tuberculosis will be entitled to treatment without charge at the institution.

General Hospitals for Counties.—Two years ago the Iowa legislature passed a bill permitting counties to vote for the levying of a tax to build general hospitals and providing, also, for the erection of separate buildings for the care of tuberculous patients. At the November election eight counties voted on this question, but in only one—Washington County—was the vote successful. A tax of $25,000 was voted and the management was placed in the hands of a board of seven trustees, none of whom is a practitioner. A citizen of Washington donated a site containing 11 acres for the institution, and churches, lodges and private citizens have provided the furnishings.——At a special election, called March 22, Jefferson County voted to establish a general county hospital and voted $27,000 for this purpose. The Washington County hospital is expected to be ready before next winter. The credit for this good work should be given, largely, to the medical men in each county for their united action in the matter.

KANSAS

Personal.—Dr. Benjamin P. Smith, Miltonvale, has succeeded Dr. Chilton W. McLaughlin, Kansas City, as national medical director of the Sons and Daughters of Justice.——Dr. Josaphyne R. E. Davis, Ottawa, who has been under treatment in Kansas City, has returned and resumed her practice.

New Hospital for Kansas City.—The campaign to raise $200,000 for the new Bethany Hospital to be built on Mount Olivet, Kansas City, was started April 2. The territory included in this campaign consists of all of Kansas and all of Missouri south of the Missouri River, comprising the St. Louis conference district of the Methodist Episcopal Church.

Golden Belt Physicians Meet.—At the annual meeting of the Golden Belt Medical Society, held in Salina, April 6, Dr. Leonard S. Steadman, Junction City, was elected president, Dr. R. C. Brown, Kansas City, vice-president; Dr. L. O. Nordstrom, Salina, secretary, and Dr. John W. Neptune, Salina, treasurer. Dr. John G. Sheldon, Kansas City, Mo., conducted a surgical clinic for the society at St. Barnabas Hospital.

LOUISIANA

Personal.—Drs. Ralph O. Hollister, Augustus F. Gates and John L. Robinson have been appointed members of the Board of Health of Hammond.——Dr. Sidney D. Porter, Moreauville, medical inspector of the State Board of Health, has moved to New Orleans.——Dr. Sara Tew Mayo, New Orleans, has been awarded the *New Orleans Picayune* loving-cup which is donated every year to the citizen who shall be declared to have rendered the most signal and unselfish service to the people and best interests of the city.——Dr. Samuel A. Dickson, Shreveport, who has been critically ill is reported to be improved.——Dr. Charles A Schilling has been elected president, and Drs. Marion A. Young and Hartwell A. Eldredge have been made members of the Abbeville Board of Health.——Dr. William L. Grace has been elected president of the Plaquemine Board of Health.——Drs. Robert P. Jones and Tacitus W. Young have been appointed members of the Board of Health of Clinton.

MARYLAND

Baltimore

Operation on Dr. Barker.—Dr. Lewellys F. Barker was operated on for gall-stone disease by Dr. John M. T. Finney, April 10. The appendix was also removed. According to latest reports Dr. Barker is doing well.

Improvement in Marine Hospital.—Extensive improvements are being made in the United States Marine-Hospital. A new system of tuberculosis tents has been installed; a new electric lighting system has been put in operation; interior telephones have been placed and other minor improvements have been made.

Hospitals Benefit.—The Church Home and Infirmary is to receive, under the will of the late Miss Harwood, two-fifths of the estate which is appraised at more than $130,000.——The thirty day "Whirlwind Campaign" to raise $300,000 for additions to Mercy Hospital begins April 10. Cardinal Gibbons is at the head of the advisory board.

Portraits to be Presented.—At the coming meeting of the Medical and Chirurgical Faculty of Maryland, portraits will be presented of the late Dr. Francis Donaldson by Dr. William H. Welch and of Dr. Charles M. Ellis, Elkton, by Dr. Lewellys F. Barker. The annual oration is to be delivered by Dr. George W. Crile, Cleveland, O., and will be followed by a smoker. The scientific session of April 27 will be a joint meeting with the Maryland Pharmaceutical Association and will be addressed by Professor Charles Caspari, Jr., Pure Food Commissioner, and Mr. John B. Thomas of Baltimore.

MASSACHUSETTS

Prominent Dentist Dies.—Edward Walter Branigan, professor of clinical dentistry at the Tufts Medical School and for the past few months its acting dean, a trustee of the Forsyth Dental Infirmary, a member and former president of the National Association of Dental Faculties and a dental member of the American Medical Association, died in Charlesgate Hospital, Cambridge, March 23, from heart disease, aged 35.

New Talitha Cumi Home.—The New England Moral Reform Society, which maintains the Talitha Cumi Maternity Home, is marking its seventy-fifth anniversary by the erection of buildings for the home on Forest Hills Avenue, Boston. A tract of 3 acres of land has been secured and the first group of buildings, consisting of the waiting department, the maternity hospital and the foundations and basement of the industrial home, will be erected at a cost of about $62,000. In the waiting department about forty can be accommodated at one time and the hospital can provide for thirty patients.

Personal.—Dr. Louis E. Dionne has been elected chairman and Dr. Albert G. Blodgett secretary of the Board of Health of Ware, and Dr. Harry D. Gafney has been appointed town physician.——Dr. William H. Keleher, Woburn, has been appointed medical examiner of the district comprising Woburn, Winchester, Lexington and Burlington, vice Dr. Harrison G. Blake, Woburn.——Major Frank P. Williams, M.C., N. G., Mass., has been detailed to attend the maneuvers on the Mexican frontier.——Dr. Theobald Smith, professor of comparative pathology in Harvard University, has been appointed visiting professor at the University of Berlin for the second half of the academic year 1911-1912.

Success of the Worcester Movement.—The undertaking inaugurated in Worcester County twenty-eight months ago to attack tuberculosis in wage-earners by an agreement among merchants and manufacturers to provide curative treatment, has resulted in the restoration of the wage-earning ability of more than 200 working people, most of them factory girls. There are at present more than 400 other individuals similarly afflicted, who are undergoing treatment at the expense of their employers, with satisfactory prospect of cure. The movement has now extended throughout New England, has gone as far west as Ohio, and experiments are being made in Japan, Bulgaria, Great Britain, France and elsewhere.

MISSOURI

Sanitarium Burns.—The Moberly Sanitarium was entirely destroyed by fire, March 27, with a loss of $60,000.

Hospital Notes.—The Jane Chinn Hospital, Webb City, was formally opened April 2. This building has been given to Webb City by Mr. and Mrs. C. R. Chinn, at a cost of more than $40,000. The institution will accommodate twenty-three ward patients and ten private patients, and is thoroughly equipped.——The Christian Hospital Association, Kansas City, has completed the pledge of $150,000 made obligatory by the provisions of the gift of R. A. Long who agreed to donate $200,000 for the building and site, provided that $150,000 should be raised as an endowment for a non-sectarian hospital.——An appropriation of $50,000 has been made by Kansas City for the pavilion for tuberculosis patients at Leeds Farm, on which work will be started this spring.

St. Louis

Hospitals Consolidated.—The merger of the Christian Hospital and Centenary Hospital was completed April 1. The new

institution will be known as the Christian Centenary Hospital and will be located in the premises at present occupied by the Centenary Hospital. The new institution will be able to accommodate about one hundred patients.

Summer School of Medicine.—The St. Louis University School of Medicine announces that it will establish a summer course of medical instruction, beginning May 30 and continuing until July 8. The course of study will cover both clinical and fundamental branches and is intended to provide facilities for medical graduates who wish to take additional clinical instruction or to review fundamental subjects, and for undergraduates who desire to complete laboratory subjects in advance.

NEBRASKA

Medical Society Meetings.—The Gage County Medical Society, at its annual meeting in Beatrice, April 6, elected Dr. Harry M. Hepperlen, president; Dr. Aleck V. Robinson, vice-president, and Dr. Louis E. Penner, secretary-treasurer, all of Beatrice.——The annual meeting of Burt County Medical Association was held at Tekamah, April 5. The following officers were elected: president, Dr. Cook Craig; vice-president, Dr. S. A. Swenson, Oakland; secretary-treasurer and alternate delegate, Dr. Merrit Wood, Tekamah; censor, Dr. Edgar A. Sears, Decatur, and delegate to the state society, Dr. Andrew D. Nesbit, Tekamah.——Butler County Medical Society, at its annual meeting, held in David City, April 5, adopted resolutions condemning contract practice, and elected the following officers: president, Dr. Thomas J. Vanderhoof, Rising City; vice-president and delegate to the state society, Dr. Edgar D. Banghart, David City; secretary-treasurer and alternate delegate, Dr. Harry E. Marselus, Octavia; censor, Dr. Riley G. Rich, David City.

NEW JERSEY

Fire in Insane Hospital.—Fire set by a patient in the New Jersey State Hospital, Morris Plains, March 21, caused a great deal of excitement, but prompt action by physicians, nurses and attendants prevented any serious damage.

Milk Bill a Law.—Following the public hearing, March 17, on the Meyer milk standard bill, Governor Wilson has approved it, thus making it a law. The bill reduces the quantities of solids required in milk from 12 to 11½ per cent.

Typhoid in State Prison.—Three cases of typhoid fever have been reported in the New Jersey state prison. The health and water department of Trenton will install a chlorid of lime plant to aid in the purification of the city's drinking water until the proposed filtration plant can be completed.

Personal.—Dr. Charles H. Mayhew, Millville, is reported to be seriously ill with diabetes.——Dr. James K. Pollock, Trenton, has been appointed physician of the Southeastern Hospital for Insane, Madison, Ind.——Dr. Thomas E. Dolan has been reelected president, Dr. Joseph Funk elected vice-president and Dr. Theodore F. Livengood, secretary of the staff of Alexian Brothers' Hospital, Elizabeth.

County Society Meeting.—At the annual meeting and banquet of the Morris County Medical Society, held in Dover, the following officers were elected: president, Dr. Theodore W. Bebout, Stirling; vice-president, Dr. Gustav A. Becker, Morristown; secretary, Dr. Henry W. Kice, Wharton; treasurer, Dr. James Douglas, Morristown; permanent delegate, Dr. Abram E. Carpenter, Boonton, and annual delegates to the state medical society, Drs. Clifford Mills, Morristown, and E. Moore Fisher, Morris Plains.

The Widener Home.—P. A. B. Widener of Philadelphia will erect at Longport, near Atlantic City, a summer branch of the Home for Crippled Children, which he maintains in Philadelphia. Last summer he erected several cottages and the children were sent to the shore in groups. The new building will accommodate as many as are cared for in the Philadelphia institution. There are now ninety-two children in the home. With the exception of the school rooms the establishment will be duplicated in Longport, the building occupying an entire block and but one story high. It will contain sun parlors, gymnasium, swimming pool, light and airy dormitories and apartments for physicians and nurses. It is said that it will cost $500,000, and that Mr. Widener's instructions are to make it ideal for its purpose, regardless of expense.

NEW YORK

New York City

New Pavilion for Thoracic Surgery Opened.—The trustees of the German Hospital and Dr. Willy Meyer have announced the completion of a pavilion for thoracic surgery. This pavilion was opened for inspection April 8.

Babies' Hospital Ready.—The new babies' hospital of the Brooklyn Children's Aid Society is ready for use when the organization opens its Seaside Home at Coney Island for the season on June 20. There are accommodations for 100 patients and all kinds of cases will be taken.

Medical Society Can Try Physician.—The injunction obtained by Dr. Louis A. Ewald, to restrain the county society from trying him on charges of having changed the records of Sydenham Hospital so that it appeared that he had performed more operations than he really had done has been dismissed by the Appellate Division of the Supreme Court, which held that the society had the right to try the physician on the charges.

Control of Venereal Disease.—At a recent meeting of the Board of Health a resolution was adopted which expressed the sense of the Board of Health that the early adoption of a comprehensive plan for the sanitary control of venereal diseases is necessary for the protection of public health and called on the medical advisory board to submit recommendations. The resolution has committed the Board of Health to a definite request that the city erect a public hospital for such diseases.

Lectures for Physicians.—The following lectures will be given in the auditorium of the Educational Alliance on East Broadway: April 9, Dr. Albert A. Berg on "Lodge and Contract Practice"; April 17, Dr. William K. Polk on "Medical Ethics and Their Application to Practice"; April 23, Dr. Joseph Bretlauer on "The Secret Division of Fees," and April 27, Dr. Sigismund S. Goldwater on "Abuses of Hospital and Dispensary Practice." These lectures are for physicians only and will begin at 8:30 p. m.

Memorial Meeting to Dr. Janeway.—The regular meeting of the Academy of Medicine on April 6 was devoted to addresses commemorative of the character and work of Dr. Edward G. Janeway. Dr. Francis Delafield spoke of him as the "Physician"; Dr. William H. Welch as the "Pathologist"; Dr. Abraham Jacobi as the "Consultant," and Dr. Joseph D. Bryant as the "Colleague and Friend." It was suggested by several of the speakers that a fitting memorial of Dr. Janeway be placed in the Academy of Medicine.

Buffalo

Increased Salaries in Health Department.—The salary of the health commissioner has been increased to $5,000, and a total of $12,000 a year in increases in salaries has been allowed in the department.

New Buildings for Hospital.—Concerted efforts are being made to raise a fund of $200,000 for the erection of new buildings for the German Deaconess Hospital, and of this amount $40,000 has been subscribed up to date.

City Hospital Site.—The question of a site for the new city hospital is still undecided. An 80-acre tract at West Farm has been offered the city for $225,000, and a tract of the same acreage at the driving park, for $325,000. These offers are still under advisement.

Personal.—Dr. Roswell Park has returned home.——Dr. George B. Stocker has been appointed deputy medical examiner for Erie County.——Dr. John D. Howland has been appointed medical superintendent of the Erie County Hospital.——Dr. Arthur C. Schaefer, assistant health officer, has been appointed a member of the medical staff of the Seventy-Fourth Infantry, N. G., N. Y.

NORTH CAROLINA

Medical Society Moves.—The Buncombe County Society has moved its library and office furniture to the rooms of the Asheville City Health Department and has made arrangements to have the library and reading room kept open constantly.

Personal.—Dr. Peter J. Gorman has been appointed superintendent of the State Hospital for Curable Consumptives, Aberdeen.——Major Eugene B. Glenn, M.C., N.C.N.G., Asheville, has been designated to attend the army maneuvers in Texas and has left for the frontier.——Dr. Hubert A. Royster, Raleigh, has closed a successful campaign for securing $75,000 for the erection of a new Y. M. C. A. building in that city.——Dr. Jacob H. Shuford has begun the erection of a hospital at Hickory.

PENNSYLVANIA

New Members of Board.—Governor Tener sent to the senate, April 3 the following nominations: Drs. Winters D. Hannaker, Meadville, and George A. Knowles of Philadelphia, to be members of the Board of Medical Examiners, representing the Medical Society of Pennsylvania.

County Bulletins.—The twentieth in the series of county papers issued in Pennsylvania is *The Bulletin of the Lancaster City and County Medical Society.* The *Bulletin of the Allegheny County Medical Society* is not only to change from a monthly to a weekly, but is to reach members of medical societies in adjoining counties as well as its own.

Philadelphia

Corinna Borden Keen Research Fellowship.—Graduates of the Jefferson Medical College who may wish to compete in this contest, for which a fund of $1,000 is available, should apply to the dean, Dr. James W. Holland, Walnut and Tenth Streets, Philadelphia.

Fire at Blockley.—The laundry at the Philadelphia General Hospital which was badly damaged by fire on April 6, is already being rebuilt. The damage to the structure is estimated at nearly $200,000. The short-circuiting of an electric mangle is believed to have started the fire.

Quarantined.—The Italian liner *Verona,* with 797 passengers was detained at Lewes, for examination for small-pox. Four men broke quarantine and the Philadelphia police were asked to assist in capturing them. Two were caught and examined by Dr. Andrew A. Cairns, of the board of health, and found to have been vaccinated.

Gift to Hospital.—C. Hartman Kuhn has conveyed the property, 1713 Summer Street, which he recently purchased for $14,250, to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases at Seventeenth and Summers Streets, as a memorial to his father, Hartman Kuhn. It is to be known as the Hartman Kuhn Memorial Building.

Former Foreign University Students' Meeting.—The Spring "Kommers" of the Philadelphia Branch of the Union of Former German University Students now residing in America will be held April 19 at the Hotel Walton. The guests of honor will be the members of the American Gastroenterological Association.

Personal.—Frederick W. Heyl, a druggist, has been appointed special examiner of drugs, medicines and chemicals.——Dr. Alfred Stengel, professor of clinical medicine in the University of Pennsylvania, was made professor of medicine of that institution April 4.——Dr. Henry K. Pancoast, formerly lecturer on skiagraphy at the University of Pennsylvania, has been appointed professor of roentgenology.——Dr. T. Turner Thomas, an associate in surgery, was appointed associate professor of applied anatomy.——Dr. Morris Longstreth will leave next month for a summer in Europe and on his return will make Boston his home.

Tuberculosis Conference.—The first Pennsylvania Conference of Tuberculosis Workers was held April 7 and 8. Dr. Charles J. Hatfield, Philadelphia, president of the Pennsylvania Society for the Prevention and Study of Tuberculosis, presided. The first session considered "A Program for an Antituberculosis Society which Employs no Paid Workers." The function of city, county and state in controlling tuberculosis was also a subject for general discussion and at the closing session, the "Opportunity and Need for Social Service in Antituberculosis Work" was discussed. The educational exhibit of the Pennsylvania society was presented for the visitors' inspection.

WASHINGTON

Protest Against Removal of State School.—At a meeting of the citizens of Medical Lake, a protest was made against the Bassett bill which provides for the removal of the State School for the Feeble-Minded to the west side.

Opposes Publicity.—The Spokane County Medical Society at its March meeting adopted a resolution requesting the lay papers not to publish notices of operations or personal items regarding physicians and their treatment of cases.

Nurses on Strike.—Refusal to grant an increase in wages to the nurses in the King County Hospital, Seattle, resulted in a strike of twelve nurses, which left the 250 patients in the hospital to be cared for by the superintendent and two nurses who declined to join in the strike.

Personal.—Dr. Alexander H. McLeish, Seattle, assistant superintendent at the Western Washington Hospital for the Insane, Fort Steilacoom, has been appointed superintendent of that institution and Dr. Albert C. Stewart, Tacoma, has been appointed the assistant.——Dr. Willis H. Corson, Seattle, has assumed charge of the King County Hospital.——Dr. William M. Newman has been appointed police surgeon of Spokane, vice Dr. John H. O'Shea

WISCONSIN

Counties Would Build Sanatoriums.—Winnebago, La Crosse, Marathon, Eau Claire and Kenosha counties are awaiting the action of the legislature relative to their right to erect sanatoriums for the care of patients with tuberculosis. La Crosse has already appropriated $5,000 for the erection of its sanatorium.

Personal.—Dr. Samuel G. Higgins, Milwaukee, assistant surgeon medical inspector, has resigned.——Dr. Albert J. Pullen has been elected president of North Fond du Lac.——Dr. Mazyck P. Ravenel, Madison, has been appointed by the United States Live Stock Sanitary Commission a member of the committee to investigate hog diseases, and especially hog cholera.——Dr. Frank A. Everhard has been appointed postmaster of Ripon.——Dr. and Mrs. Harry McElwee, Madison, have started for Europe.

GENERAL NEWS

Association on Medical Museums.—The fourth stated meeting of the International Association on Medical Museums was held in the Auditorium, Chicago, April 13, under the presidency of Dr. Alfred S. Warthin, Ann Arbor, Mich. The first part of the meeting was devoted to papers, and the second to a symposium discussion of the Experience Bulletin on the preservation of museum specimens in their natural colors, and this was succeeded by demonstrations of specimens and apparatus.

National Tuberculosis Meeting at Denver.—The annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Denver June 20 and 21. Members of the American Medical Association may find it convenient to attend the meeting in Denver on their way to the Los Angeles meeting. Denver may be reached by the way of the regular trains previous to the national tuberculosis meeting, and then the special trains provided for the Los Angeles meeting may be joined at Denver or at some other point in Colorado.

Proctologic Program.—The American Proctologic Society will hold its thirteenth annual meeting at Los Angeles, June 26 and 27, with headquarters at the Hotel Alexandria. The preliminary program includes eighteen titles. The subject of the presidential address by Dr. George J. Cook, Indianapolis, will be "Proctologic Recommendations." A symposium is to be held on "Constipation," taking up its etiology, physiology, bacteriology and urinary findings, pathology and diagnosis, sequelæ, including autointoxication, psychotherapy, mechanical, electric treatment and massage, non-surgical and surgical treatment.

Health Report of Philippine Islands.—The eleventh report of the Bureau of Health of the Philippine Islands, presented by Dr. Victor G. Heiser, U. S. P. H. and M.-H. Service, Director of Health, contains the following recommendations for the improvement of the health service of the Philippine Islands: that the legislature enact a law for direct insular control of the Municipal Health Service; that a law for the commitment of the insane be passed; that the Manila charter be so amended that the cost of the abatement of nuisances existing on the property of private individuals, companies or corporations may be assessed against such property and become a prior lien on the same until paid; and that an extensive laboratory and research study of cholera be made with special reference to the influence of bacilli-carriers on the propagation of the disease, and also as to other means by which its perpetuation might be secured.

Annual Meeting of Territorial Association.—The eighth annual meeting of the Philippine Islands Medical Association was held in the amphitheatre of the College of Physicians and Surgeons, Manila, February 22 to 24, under the presidency of Dr. Benito Valdez y Salvadore, Manila. The election of officers was as follows: president, Dr. Robert E. L. Newberne, Manila; vice-presidents, Drs. Henry A. Shaw and Fernando Calderon y Roca, Manila; secretary-treasurer, Dr. Vernon L. Andrews, Manila; and councilors, Drs. Richard P. Strong and Benito Valdez y Salvadore, both of Manila. The presidential address was on "Electricity as a Powerful Therapeutic Agent." Dr. Fernando Calderon y Roca gave an interesting paper on "Infantile Beriberi," illustrated with lantern slides. Each morning before the beginning of the scientific program, a surgical clinic was held in the Philippine General Hospital by Drs. John R. McDill and Hans E. Schiffbauer.

Australasian Medical Congress.—The ninth session of the Australasian Medical Congress is to convene at Sydney, Australia, September 18 to 23, 1911. The meeting is organized under the patronage of the governors of the various states of

Australia, New Zealand and other prominent officials and scientists, and is to have twelve sections, with committees to report on hospital abuse, on contract practice and on syphilis. The secretary is Mr. Arthur Palmer, 121 Bathurst Street, Sydney, Australia.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, April 1, 1911.

Death From Being Blown Into the Air

At Bradford, a girl, aged 16, met death in an extraordinary manner. While in the playground of her school she was caught by a veritable tornado which carried her into the air. When she fell she sustained injuries so severe that she quickly succumbed. At the inquest evidence was given by the assistant school caretaker that the playground is in a very elevated position and that on several occasions he had seen girls blown off their feet but never actually into the air. In his thirteen years' experience he had never seen wind so violent as on the morning of the fatal accident. Another witness who was waiting for a car in front of the school said that he saw the girl in the air, her skirts blown out like a balloon. She was from 25 to 30 feet in the air, just above the school balcony (the latter, the coroner remarked, was 20 feet high). The caretaker said that he had often seen girls blown down in the school-yard and pinned against the wall, and frequently had to assist them into the school. The physician who was called found the girl unconscious and pulseless, suffering from severe concussion of the brain and compound fractures of the lower jaw, right arm, wrist and thigh. It appeared that she was wearing a pair of bloomers with an ordinary skirt but without petticoats. The jury returned a verdict of "died as the result of a fall caused by a sudden gust of wind."

The Decline of Tuberculosis in Scotland

Prof. Matthew Hay, health officer of Aberdeen, states that tuberculosis has been declining in that city for fifty years, although a decline did not begin to be felt in Scotland as a whole until after 1870. It began earlier in towns than in the rural districts. The decline began long before the germ origin of the disease had been demonstrated by Koch, although the infectious character of the disease had never been without believers. A remarkable fact is that the rate of decline was almost as great before sanitary precautions were taken against infection as since they were taken. It was plain, therefore, that the ameliorating agencies had been of a general and not of a specific character. No disease is so amenable to general hygienic conditions as tuberculosis. Eminent authorities have attributed the fall entirely to the increasing segregation of consumptives in institutions. But this applies only to the second half of the period of the decline. It seems extraordinary that the professor in coming so near the explanation of which he was in search as to describe it as a "general ameliorating agency," should have missed it. The period of fifty years to which he refers corresponds with the "free trade" epoch of this country, during which, in consequence of the removal of all taxes from food and all other commodities, an enormous increase has taken place in the prosperity of the people. Cheap food and higher wages were the causes.

Typhoid Traced to Fish Contaminated by Sewage

That typhoid fever may be due to sewage-contaminated shellfish, such as oysters and cockles, is now well-known, but that vertebrate fish may be similarly contaminated is a new theory. Sir Shirely Murphy, the health officer of London, has presented a report confirming the suspicion that has been entertained for ten years that plaice, which is largely supplied in the fried-fish shops, is a cause of typhoid fever. The investigation has been performed by Dr. Hamer, medical officer of the county council for special purposes, and is a remarkable piece of careful work. In the autumn of last year an outbreak of typhoid occurred in the East End of London; about 300 cases were reported from the thirty-third to the forty-second week. Only about 100 could be attributed to the causes ordinarily operative at this time of the year and, therefore, it was inferred that the remaining 200 must have been due to some special cause. The 200 cases showed a tendency to develop in clusters or groups, of which there were thirty-three. Water, milk and mussels were excluded as causes. When more than one case occurred in the same household the dates of onset were within a few days of each other, suggesting that the infection had been introduced into the house at the same time. Among seventy-nine cases occurring in Bethnal Green (a poor East End borough) sixty-eight patients gave a history of having eaten fried fish. Within the month of the onset, and of fifty cases in an area of special prevalence all the persons had eaten fried fish. Within the special area there were twenty-seven fried-fish shops, and of these it was found that three had been specially frequented by the persons attacked. All these shops obtained their supply from the great fish-market of Billingsgate. The fish was plaice and what is known as "late steamer fish," i. e., the cheaper fish which remains after the higher-priced fish has been disposed of. This fish is usually bought by fish friers. In the fish trade of London there is no systematic control by the sanitary authorities, such as is regarded as necessary in the case of other foods, though action has been taken as regards shellfish when they were shown to be a source of typhoid. Plaice appears to be the only fish used by the vendors of fried fish which is not gutted as a matter of course at sea. This is largely due to the fact that as the food of the plaice is largely shellfish it is possible to retain the gut without injuring the fish. In recent years, the practice of gutting plaice is coming into vogue; but, as a rule, no attempt is made to gut small plaice. These are commonly caught in vast numbers in shallow parts near the coast and they sometimes enter tidal waters. The suggestion is made that they become infected by sewage in the estuaries of large rivers.

Severe Epidemic of Measles in London

A severe epidemic of measles has prevailed in London for some weeks and is the cause of nearly 200 deaths weekly. Indeed the records of deaths which extend back for seventy years show that measles has never before caused so many deaths. As measles is not among the diseases which are required to be reported, systematic attempts to deal with it are not possible on the same scale as other infectious diseases, such as scarlet fever and typhoid. The unusual course has been taken of admitting measles patients to the fever hospitals, where there are now 803 cases, but these form only a small fraction of the cases in the metropolis.

Hospitals and Tuberculosis

Measures for the state control of tuberculosis continue to increase. The notification of cases of the disease to the health authorities is not yet universally compulsory but local authorities have the power to make regulations rendering notification compulsory in their districts. In 1908, the government issued regulations providing for the notification of pulmonary tuberculosis occurring among the inmates of poor law institutions, or among persons under the care of district medical officers. An order has now been issued embodying further regulations to provide for the notification of pulmonary tuberculosis occurring among the in-patients or out-patients at hospitals or similar institutions for the treatment of the sick which are supported, wholly or partially, otherwise than by the contributions of the patients.

Bill to Insure Greater Safety in Coal Mining

Recent colliery disasters, particularly the one at Whitehaven, in which, as the result of an explosion, over 300 men perished (previously reported in THE JOURNAL), have directed the attention of the government to measures for ensuring greater safety. Mr. Churchill, the Home Secretary, moved in the House of Commons the second reading of a coal mines bill which has been agreed to without a division. He called attention to the fact that a modern colliery with its elaborate plans for getting coal and bringing it to the surface, and for transmitting power for a long distance underground, and for forcing great volumes of air through passages many miles in length is one of the most remarkable examples of human activity. There are employed in the coal mines of the United Kingdom over 1,049,000 persons, of whom 846,000 are employed underground. This accounts for a substantial portion of the whole of the inhabitants of the British Isles. His bill deals with the health and safety of that large number of persons and is the result of a government commission appointed in 1906, and composed of both miners and mine owners, which made a prolonged and exhaustive inquiry into the whole condition of coal mining. The bill also comprises a number of amendments suggested by the government mining officials. It is divided into eight parts: management, safety, health, accidents, regulations, employment, inspection and supplemental. The death-rate from accidents in coal mines, which has been going down for over half a century, ceased to fall five or six years ago and last year there was a grave rise, 1,620 persons being killed in coal mines. The bill deals with all the main causes of accidents. First there are the dangers that arise in the shaft from improper raising and lowering of the cage, or breaking of ropes

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and chains. These the bill proposes to meet by providing that no winding rope shall be used for more than three and one-half years, and that no rope which has been spliced shall ever be used for raising or lowering persons. Overwinding, the cause of many accidents, is provided against by a greatly improved system of controllers and orakes. Another important provision forbids materials and tools being carried at the same time as men are wound up and down. Provisions are also made for ensuring that the shaft is kept in good repair. To prevent accidents from defective signaling there is a provision which secures a uniform system throughout the country. Coming to the ordinary risks to which the miner is exposed, 234 persons were killed last year by accidents connected with hauling or being nipped between the trucks and the walls, or by being run over. The bill requires that adequate space be provided between the walls and the trucks and sufficient refuges prepared. There are various complicated provisions making the hauling of coal less dangerous. The haulage road is too often the reserve alley which is the sewer of the mine by which obnoxious gases escape. The bill provides that there shall be another means of exit, and that in new mines there shall be two inlets, one for haulage and one for traveling. Proper apparatus for extinguishing fires and preventing accumulation of combustible material must be provided. To prevent the danger from falls of earth and coal, to which one-third of fatalties in mines are due, no man shall be allowed to work under an unsupported roof. To prevent the danger of gas explosion no man shall be allowed to work in any part of a mine where there is more than 2.5 per cent. of gas. There is also a provision for compulsory searching for matches. The use of electricity in mines is prohibited where it would be attended with risk.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, March 31, 1911.

The First Meeting of French Medical Journalists

This recent meeting was organized by the Association des journalistes médicaux français.

The first paper, by Dr. Ausset of Lille, was on the facilities which ought to be given to medical journalists in reporting congresses, etc. Resolutions were passed that summaries of the main addresses ought to be sent to all the journals eight days before the opening of each congress and that medical journalists should be given reduced rates on the railways.

Dr. Dieupart of Paris read a paper on the unauthorized assumption of the title of doctor by writers in the lay press, whose articles usually have an advertising purpose. A resolution was adopted warning editors against self-styled doctors. This resolution will certainly amuse the editors, who divide with such contributors the proceeds of their articles.

A paper was read by Dr. Vitoux of Paris on the unauthorized reproduction of medical articles. There are here medical journals which depend solely on reprinting articles without any authorization whatever, often even without credit. A resolution against the practice was passed.

It is too much to expect that this work will be of much use, since the Association des journalistes médicaux français is far from comprising the editors and publishers of all the most important publications.

Increase of Mortality from Diabetes

At one of the last sessions of the Académie des sciences, Dr. J. Le Goff of Paris called attention to the considerable increase of deaths from diabetes in Paris and in the department of the Seine. According to the *Annuaire statistique de la ville de Paris*, there were in 1880, 128 deaths caused by diabetes, or an average of 0.644 per 10,000 inhabitants; five years later, in 1885, the number of cases had doubled; in 1909 there were 525 or 1.93 per 10,000 inhabitants. Thus in thirteen years the number of deaths due to diabetes has quadrupled. The number of cases of diabetes in Paris has also increased considerably. It may be said, indeed, that formerly many cases of diabetes were not recognized. However, methods of analysis of sugar in urine have not varied for more than fifty years, and even before 1880 the pharmacists ascertained the presence and the amount of glucose by the Fehling method. This argument, therefore, has less value than has been attributed to it. If it be admitted that the number of cases has not varied for thirty years, it must be concluded that the mortality among the patients has quadrupled. Dr. Le Goff believes that the number of diabetics is increasing and the mortality among these patients is likewise increasing. To what should this considerable increase of a disease which was hardly known at the beginning of the last century be attributed? There are several causes. Persons who lead sedentary lives and take no physical exercise are most liable to become diabetics. Moreover, it is a question if the increasing consumption of sugar may not be regarded as one of the causes in the increase of diabetes. In fact, up to the seventeenth century, sugar was considered a medicament and was sold by pharmacists only. In the course of the eighteenth century, saccharose was obtained from the beet. The continental blockade gave a great impulse to the culture of this plant and during the whole of the nineteenth century, the consumption of sugar increased constantly. Thus in 1910, the amount consumed per person was 40.710 kg. in England; 31.4 kg. in America; 26.77 kg. in Switzerland; 19.11 kg. in Germany; 18.97 kg. in the Scandinavian countries; 17.68 kg. in Holland; 15.7 kg. in France, and 12.64 kg. in Belgium. It is in the countries in which the greatest amount of saccharose is consumed that the greatest number of diabetics is found.

Danger to Europe in the Defective Sanitary Condition of Russia

Dr. Lowenthal read a paper before the Académie de médecine on March 28, from which it appears that Russia is the only civilized country where cholera is endemic and epidemic. The epidemic of 1910 caused 130,000 deaths there. Preventable diseases affect one person out of four in Russia and a third of the patients die. In European Russia alone, there are more deaths from epidemic diseases than in the entire population of Europe, not including Turkey, which possesses no statistics. If the medical statistics on Russia and Japan are compared, the latter are seen to be much better, and this observation explains the difference of the sanitary condition of the two armies in the late war. The lamentable condition of Russia was due to the fundamental ignorance among the population, who did not understand the most elementary rules of cleanliness and hygiene. Moreover, while the rural population is entitled to free medical aid, the extent of the territory under the care of a single physician (on an average, 40,000 inhabitants scattered over 7,200 square kilometers or about 34,000 square miles), the distance of hospitals (sometimes by hundreds of kilometers), the absence of railroads, render this medical assistance precarious. Altogether, the sanitary condition of the Russian empire constitutes a permanent danger to Russia herself and a permanent menace for Europe and the entire world.

The Preparatory Schools of Medicine and Their Rôle in Medical Instruction

At the same session, Dr. Motais, professor at the Ecole preparatoire de médecine d'Angers, explained the advantage presented by the preparatory schools of medicine, of which there are twelve in France, at Amiens, Angers, Besançon, Caen, Clermont, Dijon, Grenoble, Limoges, Poitiers, Rheims, Rouen and Tours; there are altogether 641 pupils. Thus, there is no crowding in the ampitheaters of anatomy or the hospitals, consequently, these schools offer more favorable conditions for the first years of medical education than the more crowded scientific centers of the great cities. Professors Blanchard, Guyon, Gariel and Pouchet, of the Faculté de médecine de Paris, like Dr. Motais, believe in these provincial schools. Gariel and Pouchet declare that they have often given examinations in these schools and have observed the superiority of the candidates over the pupils of Paris. Dr. Bertrand, inspector general of the marine sanitary service, emphasized the services rendered by the schools of naval medicine, the suppression of which is demanded each year in parliament.

Reform in Medical Examinations

Up to the present the candidates at the various examinations of the Faculté de médecine were able, by consulting the announcements posted on the walls of the school, to learn at least fifteen days in advance the names of the members of the examining board. It will not be so hereafter, for the counsel of the school has decided that the names of examiners shall be hereafter kept secret. This reform has been undertaken to insure greater impartiality of examinations and to avoid abuse of the recommendations with which some candidates overwhelm the members of their jury, once known. Moreover, certain members of the examining boards, Professors Nicolas and Gariel, for example, who were known to be particularly severe, were avoided, many candidates failing to present themselves to undergo examination when they were to have these examiners. The students are much excited and have taken measures to obtain the reestablishment of the former state of things, but they will receive a categorical refusal.

Personal

At its session of March 28, the Académie de médecine elected a member in the section of pathologic anatomy to replace Professor Raymond, who died last September; Dr. Brault, physician of the Lariboisière Hospital, was chosen. Dr. Brault was one of the most active collaborators of the late Professor Cornil, and has published a number of works, especially on the pathologic anatomy of the kidneys, the liver and the arteries.

The Clinics of Industrial Accidents

In the last general assembly of the Syndicat médical de Paris, Dr. Pelisse read a report on certain so-called clinics of industrial accidents which do not confine themselves to receiving injured working men but employ very dubious expedients to invite such patronage. They are veritable shops with great show-windows decorated in extravagant colors to catch the eye of passersby, reinforced by striking radiographs, and sometimes harboring self-styled lawyers of more or less shady reputation who seek to extort from the insurance companies three or four times what they ought to pay. The most usual method of attracting patronage is to give each injured workman who comes to the clinic for the first time a certain sum of money. Another is to give a premium to everyone who brings there an injured workman.

After hearing Dr. Pelisse's report, the *syndicat* resolved that the attempt to attract victims of industrial accidents was reprehensible and unprofessional, and that every physician convicted of using such means should be excluded from professional societies.

Present Condition and Enlargement of the Beyrouth Medical School

In 1881 the French government and the superior of the Jesuit mission in Syria came to an understanding which resulted in the creation of the Faculté catholique et française de médecine et de pharmacie de Beyrouth. It was agreed that the Jesuits should have the direction and administration of the institution and that an annual allowance from the French government should guarantee the payment of the salaries of the professors and the maintenance of the laboratories and the library.

The diplomas are delivered and the control is assured by professors sent from France each year. The courses opened in 1883. The buildings, the teaching body and the equipment of the laboratories were planned for a maximum of sixty students, which no one anticipated would be exceeded in the future.

The school, however, has undergone considerable development. To-day, after twenty-seven years of existence, it has more than 250 students and, consequently, the buildings, equipment and faculty and, especially, the hospital facilities, are entirely inadequate. The administrators therefore have planned (1) to construct new buildings large enough to give 400 pupils the best and most modern medical instruction, and (2) to provide the hospital needed by the school with a sufficient number of beds for the general clinics of medicine and surgery and special services for children's diseases, cutaneous diseases, syphilis, diseases of the eye and an isolation pavilion for contagious diseases. The construction and installation of the new buildings will be undertaken by the school at its own expense; but it will be unable to do more. It therefore appeals for means to construct the hospital to the French government, which will probably respond favorably and will retain the control of the school.

Large Bequests to Scientific Institutions

In France, unlike the United States, scientific institutions are rarely aided by private gifts and bequests from rich men. A strong impression has, therefore, been created by the will of M. Loutreuil, a rich manufacturer who recently died leaving the greater part of his fortune to science. M. Loutreuil bequeathed $20,000 (100,000 francs) to the Institut Pasteur; $200,000 (1,000,000 francs) to the Caisse des recherches scientifiques; $500,000 (2,500,000 francs) to the Université de Paris. Moreover, desiring to contribute to the progress of the sciences taught or studied by scientists and independent investigators in other institutions of higher scientific culture, and being impressed by the meagerness of their resources in comparison with what they have in other countries, M. Loutreuil bequeathed $700,000 (3,500,000 francs) to the Académie des sciences, to be distributed to the best advantage.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, March 24, 1911.

Personal

Professor Lucae, formerly for many years director of the ear clinic in Berlin, died March 17, at the age of 76. In view of the present demand from many sources in Germany for a combination of otology and laryngology, it is of historic interest that Lucae in his thesis for the doctorate took as his theme the "Technic and Importance of the Laryngoscope Introduced into Medical Practice in the Year 1858." He entered his special field at the suggestion of Virchow. After he had worked in Vienna, chiefly with Politzer, and in London with Toynbee, he continued his studies in Berlin and became connected with the faculty here in 1866. He soon founded a policlinic for ear diseases, and in 1881 an otologic clinic. Lucae made important contributions to all departments of otology, of which his treatises on the origin and foundation of the subjective sense of hearing and the importance of sound conduction by the bones of the head are worthy of special notice. In his work he was materially aided by his unusual musical talent. Some years before his death he retired from his official position, but still took an active part in the transactions of the Berlin Otologic Society.

Berlin otology has suffered another loss in the removal from the city of the well-known Professor Hartmann, who has retired to his native place, Heidenheim in Würtemburg. As an evidence of the esteem and popularity which Hartmann has enjoyed in Berlin, a banquet was given in his honor.

Professor Busse of Posen has recently accepted a call as successor of Professor Schmidt in the chair of pathologic anatomy at Zurich.

The Berlin Medical Society on the Vaccination Law

As I mentioned in a previous letter, a motion has lately been introduced and discussed in the Reichstag to the effect that a conscience clause with regard to vaccination should be introduced, similar to that in force in England, namely, that anyone who shall declare to the judge that vaccination is contrary to his conscientious belief, shall not be compelled to have his child vaccinated. Correctly estimating the danger which this clause would bring to the vaccination law, the Berlin medical society at its last session adopted a resolution proposed by the well-known pediatrist, Professor Baginsky, which reads: "In view of the latest discussion in the Reichstag, the Berlin Medical Society declares its conviction that it is absolutely necessary to maintain the German vaccination law of April, 1874, intact, and that especially the introduction of the English conscience clause would be attended with the gravest danger to the German people." It is remarkable that none of the antivaccination physicians, who have formed themselves into a special society, were present at this meeting. The resolution was adopted unanimously without debate. To this antivaccination medical society, as a matter of course, belong only members who have always opposed the so-called "school medicine," and are partisans of the *Naturheilmethoden* or Nature cures. Presumably, they hope to do better business in this way.

Suicide in Prussia

Suicides increased in Prussia in 1909. There were 8,422 persons who took their own lives, as compared with 8,231 in 1908. Among these there were 6,466 men (in 1908, 6,371) and 1,956 (1,860) women. There were 21.6 suicides per 100,000, as compared with 21.4 in 1908, 20.2 in 1907 and 19.5 in 1906. The relative number of men was 33.6 (in the previous year 33.5), and of women 9.9 (9.6). The increase was much more marked among women than among men. There is a relative increase of suicide with advancing age. Among 100,000 persons from 10 to 15 years of age there were 1.7 (in 1908, 0.7) suicides; from 15 to 20, 16.9 (15.0); from 20 to 25, 27.3 (26.2); from 25 to 30, 20.7 (20.4); from 30 to 40, 24.2 (24.9); from 40 to 50, 37.4 (39.2); from 50 to 60, 59.9 (55.1); from 60 to 70, 56.3 (56.6); from 70 to 80, 55.8 (61.0); from 80 to 90, 54.1 (55.7). It may readily be seen from the figures that the number of youthful suicides has markedly increased since 1909. Indeed, while we find this increase in the period from 10 to 15 years in which with the small absolute number a few cases more or less may occasion a remarkable change in the relative figures, we find also that in the period of from 15 to 20 and from 20 to 25 years, where the numbers are larger, the relative figures are larger than they have been in any previous year. In accomplishing self-murder, hanging plays the principal rôle; 56.1 per cent. of men and 38.1 per cent. of women suicides hung themselves;

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11.4 and 28.8 per cent., respectively, drowned themselves; 20.2 and 3.2 per cent. shot themselves, and 6.1 and 19.3 per cent. took poison. Poisoning and drowning, together with jumping from a height, are the modes of suicide more frequently selected by the female sex than by the male, while, on the other hand, six times as many men as women end their lives by shooting.

Thirty-Second Congress of Balneology at Berlin

RADIUM IN THERAPEUTICS

The importance of radium in therapeutics formed an especial subject of discussion at the thirty-second congress of balneology held in Berlin, March 2 to 6. The well-known physicist, Professor Marckwald, treated the subject from the physico-chemical standpoint. Of the three kinds of rays produced by radium, the alpha rays possess no power of penetration, the beta rays are cathode rays and have considerable penetrating power, while the gamma rays, which are similar to the Roentgen rays, have the greatest penetrating power. Radio-active elements are such as are in constant process of destruction. The most important forms of radium, especially with reference to balneology, are those which have the shortest life period. Dry radium salts give off no emanations, but they may become a source of emanations if one simply breathes on them. There are two radio-active families, those derived from uranium, and those from thorium. The former yield short-lived decomposition products or emanations, the latter long-lived; therefore, the uranium products are of greater therapeutic importance. Heretofore not enough attention has been given to the decomposition products in the measurements. The estimation of springs for their radio-active value should not be undertaken until after three or four hours. In conclusion, the speaker emphasized the necessity for a single and international standard of unit of measurement for radium. Kionka, professor of pharmacology in Jena, who has made a special study of radium, described its importance from a biologic and therapeutic standpoint. The tissues are markedly affected by radium, so that all forms of tissue irritation from simple reddening to necrosis can be produced on the skin.

RADIUM IN TREATMENT OF GOUT AND RHEUMATISM

The influence of radium on uric acid is therapeutically important, Kionka continued, as radium converts this substance from an almost insoluble into an easily soluble form. Further, under the influence of the emanations the purin metabolism is accelerated. These two properties of radium are of the greatest importance in the treatment of gout. The emanations seem to have no special affinity for blood, like that of oxygen for hemoglobin. The best form of introduction of radium is by inhalation, as the radium also leaves the body with the expired air. Drinking and bathing in radio-active water seem to be likewise effective, but far less than the inhalations. The strongest radio-active springs known to date are those at Landeck, Johannisthal and Gastein.

Dr. Fürstenberg, assistant at the university hydrotherapeutic institute, named as the chief indications for radium, gout and rheumatism. He has noted a hypnotic action of the emanation and a temporary slight increase in the body temperature. A Kreuznach physician, Dr. Eichholz, opposed the general view of the advantage of the inhalation method over the method of drinking. Dr. Ruhemann, a Berlin physician, has had radio-active biscuits made by incorporating a solution of 1,000 or 1,500 units of radio-active salts in zwieback, in which they could be demonstrated for three months. It was asserted by Dr. Plesch, an assistant of Professor Kraus, that the blood-pressure sinks in the emanatorium, during inhalation of the emanations, and that the emanation behaves in the blood as an indifferent gas. This gas is absorbed only to a very slight extent from the intestine, and does not reach the arterial blood, as it is immediately excreted by the lungs.

CARBONATED BATHS

Professor Goldscheider, the present director of the university policlinic for internal medicine, presented a communication on the action of carbonic-acid baths. He opposes the explanation of the action of carbonic-acid baths given by Senator and Frankenhäuser, as this theory does not take into consideration the action of carbonic acid on the nerve terminals, which has been discovered experimentally by him. Carbonic acid acts chemically as a gas on the endings of the thermal nerves and hinders the escape of heat from the skin. In the carbonic-acid bath the conditions are such that the water first affects the skin and withdraws heat from the body; then here and there bubbles of carbonic-acid gas take the place of the water, but do not remove so much heat from the skin. A certain contrast of temperature thus arises. But now the bubbles of carbonic-acid gas do not lie directly on the skin, but there remains between the skin and the carbon dioxid bubble a very thin layer of water, which is of very great importance for the whole question. If the Senator-Frankenhäuser theory was correct, an air bath would be similar in its action to a carbonic-acid bath. But this is not the case. The carbonic-acid baths have a peculiar action depending on the chemical properties of carbonic acid.

BRIEF HOT PLUNGE BATHS

Privat-Docent Dr. Determann, the well-known director of the sanatorium at St. Blasien, discussed hot plunge baths. Hot plunge baths at the temperature of 37 to 45 C. (98 to 113 F.) produce a marked stimulation of the functions of the organism, and most of all increase the capacity for muscular exertion. The physiologic action of hot baths of longer duration is thereby avoided. In the short hot plunge bath there occurs first a severe terrifying sense of pain, with a brief pallor of the skin, which is rapidly followed by hyperemia. The reaction in the hot bath follows without any active effort; patients have never taken cold after the hot plunge bath. These brief hot plunge baths are indicated in spinal neurasthenia, in certain forms of asthma in young people, and in conditions of peripheral irritation and pain, such as neuralgias, especially those on a hysterical basis.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 23, 1911.

Care of the Teeth of Schoolchildren

A movement has recently been initiated in this country, as in England and America, to have the teeth of schoolchildren cared for. A preliminary report by a committee authorized to make investigation showed that fully 80 per cent. of the large number of children examined had defective teeth. In our country we have compulsory elementary teaching; therefore all Austrian children between 6 and 14 years of age, except a very few, who are educated at home and have to pass their examinations in the public schools, may be found in the schools. These distressing data have suggested the formation in Vienna of a society for the care of the teeth of schoolchildren (Gesellschaft für Schulzahnpflege), whose aims are endorsed by the government and teachers as well as by the professors. Within a few weeks, many hundreds of members have been recruited, and the society has taken up its work. No treatment is given in the schools. The teeth of the children will be examined in each school periodically (every four or six months) and those found defective will be marked out. The parents will be informed of the result of the examination, and for those who are really poor, certain dentist surgeons have consented to perform the necessary dental operations free of charge. The teacher of each class will be authorized to see if the recommendations of the dental expert have been observed by the parents or the child. It is intended to have instructive lectures on the importance of healthy teeth, delivered twice a year in each class before the children, and also to award small prizes to those who, at the end of the term, have normal healthy conditions in the mouth.

Appointment of Professors to the Vacant Clinics

As has been mentioned in a previous letter, those two men who have been considered as being the most acceptable candidates, have been appointed ordinary professors in the Vienna medical faculty: Professor Ortner from Innsbruck who will succeed Strümpell as chief of the third medical clinic, and Professor Chvostek, who will be made head of a new, fourth, medical clinic. The latter clinic is a necessity, since the number of students and also patients has lately increased to such a degree that the old clinics have become absolutely inadequate. The fourth clinic will open at the beginning of the winter term in October. Another vacancy is to be filled, that after Escherich. The medical faculty of the Vienna University has nominated as its candidates, Professor von Pirquet (who is at present in Breslau and was for some time in the United States), Professor Pfaundler, and Docent Dr. Hamburger of Vienna, in the order mentioned. All these men are Escherich's pupils and there is no doubt that the first-named physician will be appointed, while probably the third will be called to take a prominent place in a German university town.

Combating the Smoke and Dust Nuisance

On account of the increased traffic in and growing industrialization of this city, the amount of dust and smoke has become an unwelcome feature in Vienna. Especially the dust is a bad nuisance here. We have a large proportion of windy

days, hardly more than 27 days out of 365 without wind. The material with which the streets are paved is a kind of granite, which is quickly ground into fine sharp dust under the stress of street traffic. These two circumstances have been for a long time held responsible for the frequency of tuberculosis in Vienna, but all the efforts of physicians to procure a more healthful or scientific pavement have hitherto been fruitless. At last, a large and very influential association has been formed consisting of high officials of the state, of physicians, bankers and industrial men. This society has already succeeded in inducing the local municipal corporation to pave all new streets with a special non-dust-producing asphalt, while the old streets will be gradually converted also into asphalt streets. Furthermore, throwing dust out of the windows into the streets has been prohibited now by order of the police. The collection of household refuse, hitherto a fruitful source of most dangerous dust-clouds, has been made the object of a very thorough investigation, and several methods of dust-free collection are at present on trial. The society also fights the smoke nuisance. It has in this line two very encouraging results, for an amendment to the new building act of the city requires the installation of smoke-destroying apparatus in all new houses built after July 1, 1911, and the gradual installation of such in all factories within the precincts of Vienna up till 1913.

Miscellany

Vaccination Effective in the Philippines.—Another timely contribution to the value of vaccination is found in the report on small-pox and vaccination in the Philippine Islands by Dr. Victor G. Heiser, Director of Health in the Philippines, which was referred to editorially April 8, 1911, p. 1041. Dr. Heiser's report follows: During December a person afflicted with small-pox was transferred from San José, Antique, to the Island of Caluya, which is a small isolated island south of Mindoro, the inhabitants of which have heretofore not been systematically vaccinated. An old woman took some of the contents of a pustule from the small-pox case shortly before death and vaccinated a number of the inhabitants. Small-pox in epidemic form soon resulted. The population of Caluya and nearby islands is about 2,000. Approximately, 1,000 cases of small-pox occurred before the facts became known to the outer world. Vaccinators properly equipped were immediately sent to Caluya. They vaccinated 800 of the remaining 1,000 persons. Of these, not one contracted small-pox who had a successful vaccination that was 2 weeks old. Dr. Victor G. Heiser, Chief Quarantine Officer, visited ten families, with from five to eight members. In six of these, every member was stricken with small-pox. Physical examination showed that they had no vaccination marks. In two other families six persons were stricken and two escaped. Physical examination showed that of the six stricken members not one had been vaccinated. The two remaining members had successful vaccination marks. On inquiry, it was learned that they had visited Calapan a year previously and were vaccinated while there. In two other families that lived in the midst of a small-pox-stricken village, there were no cases of small-pox. Examination showed that they had good vaccination scars. Further inquiry elicited the statement that they had but recently come from another island where they had been vaccinated. In one house, one person was found with varioloid. On inquiry, it was learned that he had been vaccinated during childhood. Net result: Community of 2,000 population; 1,000 unvaccinated persons contract small-pox; 400 die; 800 are protected by vaccination; no cases occur after the incubation period was passed; no deaths occur. The remaining 200 are semicivilized and fled from the vaccinators, and their condition is unknown.

Morphologic Changes in a Mouse Carcinoma.—A systematic microscopic study was made by R. Kilduffe of the different generations of a carcinoma transplanted into white mice. The original tumor had developed spontaneously in a mouse. The sections studied covered a period of experimentation with the tumor extending from March, 1907, to June, 1910, and comprised all generations produced in that time. The sections were divided into four groups according to the history of the tumor. (a) Sections of the original tumor transplanted without experimental interference or modification, "the unheated series." (b) Sections of the tumor which had been heated to 44 C. for varying periods of time before inoculation through successive generations, "the long-heated series." (c) Sections of the tumor which had been heated before inoculation for varying periods of time as in (b), but through a shorter number of generations, "the short-heated series." (d) Sections of tumors, of which some generations had been heated for varying lengths of time, and other generations had not been heated, "the mixed series." The object of this investigation was to determine what changes in the morphologic character, if any, took place as a result of the various manipulations to which the tumor had been subjected before inoculation. This tumor was but slightly, if at all, affected morphologically by the experimental manipulations to which it was subjected, for no permanent morphologic change was produced through the influence of the physically injurious conditions to which it was exposed before inoculation. Kilduffe emphasizes the fact that the experimentally produced decrease in the energy of growth of these tumors did not change the alveolar character to an acinous one. A return to an adenomatous structure, described as a result of weakening tumor growth through transplantation into resistant animals, was not observed after a direct weakening of the growth through the influence of physical agencies.—*Journal of Experimental Medicine.*

Liver Necrosis of Chloroform Poisoning.—G. H. Whipple and S. H. Hurwitz, in the *Journal of Experimental Medicine*, report experiments on dogs and summarize their results as follows: Chloroform anesthesia for two hours or more will cause more or less central liver necrosis in dogs, depending on the length of the anesthesia and the susceptibility of the animal. If the fibrinogen of the blood of such an animal be estimated at intervals, it is found that this proteid shows a drop corresponding to the amount of liver necrosis. By administering chloroform, the fibrinogen may be almost eliminated from the circulating blood, and the poisoned animal may bleed for hours from small skin pricks or cuts. The liver can recover from a grave injury due to chloroform and return practically to a normal condition in about ten days. The fibrinogen reappears in the blood as the liver effects its repair. It seems that the quantity of fibrinogen present is a good indicator of the liver efficiency and a fairly accurate index of the amount of liver injury. Shortly after the recovery of the liver from an injury due to chloroform, one may find an excess of fibrinogen in the blood. In severe cases of chloroform poisoning, the calcium of the blood was normal or slightly increased, and the thrombin was normal. These experiments give no evidence that the formation of thrombin or prothrombin is dependent on liver activity. The hemorrhages of chloroform poisoning are due not to lack of blood clotting but to inefficient coagulation. The clot has not the body and toughness supplied by the fibrinogen, and is, therefore, unable to check even capillary hemorrhage. Fibrinogen is either formed in the liver or is wholly dependent on liver activity for its production.

Effects of Mechanical Agitation on Complement.—Under certain conditions, according to H. Noguchi and J. Bronfenbrenner, mechanical agitation destroys the complementary activity of guinea-pig serum. It is most injurious when carried out constantly at a temperature of 37 C., but it is extremely insignificant at 10 C. After the first few hours at 37 C., the destruction of complement proceeded much more rapidly, and after six hours it was almost complete. On the other hand, within one hour, shaking had almost no destructive effect on complement, even at 37 C. From this we may conclude that the several shakings which are necessary for fixation experiments during incubation do not modify perceptibly the outcome of the reactions. The rate of destruction of the complement of guinea-pig serum at temperature above 45 C. is progressively greater as it approaches 55 C., at which temperature the activity is reduced in thirty minutes to from one-thirtieth to one-fortieth of the original strength of the unheated serum; but it is not completely destroyed, as is commonly assumed. The velocity of destruction of guinea-pig complement when exposed to 55 C. for various lengths of time

is found to be quite irregular, and not proportional to the length of time. This irregularity, however, presents a certain rhythm, a period of greater destruction alternating with one of less destruction.—*Journal of Experimental Medicine.*

Mercury Bichlorid and Serodiagnosis of Syphilis.—H. Noguchi and J. Bronfenbrenner have made experiments to ascertain what effects a soluble mercurial preparation will have on the syphilitic antibody *in vitro*. As a mercurial preparation, they chose mercury bichlorid; and for the fixation test, the system of Noguchi. The effect of bichlorid of mercury was determined on (1) red blood-corpuscles, (2) complement, (3) antihuman amboceptor (rabbit), (4) syphilitic antigen (acetone insoluble tissue lipoids of human liver), and (5) syphilitic antibody. The hemolytic power of bichlorid of mercury was considerably reduced by mixing it with 0.05 c.c. of guinea-pig complement or with two units of the amboceptor serum on paper, but was not noticeably diminished by the antigen, which was used in doses of 0.0003 gram. It has no anticomplementary effect. On the contrary, the hemolysis was more complete and proceeded more rapidly in its presence. This is due to the injurious effect of bichlorid of mercury on the corpuscles, thus reducing the corpuscular resistance to the hemolytic action brought about by the complement and amboceptor. In the highest non-hemolytic quantity (0.0000025 gram) bichlorid failed to remove, to a noticeable degree, the syphilitic antibody, and the reaction in two strongly positive sera remained unchanged.—*Journal of Experimental Medicine.*

Neurasthenia in Children.—The "nervous," or "neurotic" child is, like the poet, "born and not made." He is often the child of neurotic stock, or his origin may be traced to alcoholism, tuberculosis, ill-health or poverty in the parent. Neurotics generally abound in families in which great ability or genius predominate, but also in those in which insanity, epilepsy and other neuroses are found. According to Riviere, in the *Practitioner*, the hall-mark of the "neurotic" seems to be an over-development of the emotional faculties; at the other end of the scale stands the "unemotional type," and necessarily all grades exist between these two extremes, so that the term neurotic may be qualified by "more" or "less," and, save in its higher grades, its possession may confer a blessing rather than a curse. To the higher grades of neurotic inheritance, however, a curse and a stigma attaches, and the penalty in sorrow and suffering greatly outweighs the reward, especially in childish years before the judgment comes into play.

Prognosis of Cerebrospinal Syphilis.—The prognosis of cerebrospinal syphilis is in general a serious one, owing to the frequency with which it resists treatment, and to the pronounced tendency to late recurrences and grave complications. Various factors affect the outlook. For instance, this is worse in cases in which the onset of the disease is many years after the infection, or in which other diseases or cachexias are present, particularly tuberculosis and alcoholism; it seems to be worse also in cases in which the early manifestations of syphilis were slight. Unfortunately there is not much reason to believe that thorough treatment in the early stages is a satisfactory guarantee against the later occurrence of cerebrospinal syphilis, but on the other hand energetic treatment at the onset of this certainly has an important influence on the course it will run.—E. Jones, in *Interstate Medical Journal.*

Cancer Investigation.—Experiment is rapidly advancing toward a stage at which the nature of cancer will be made clear, the influence of heredity, and of external factors, e. g., of all chronic irritants, defined; but a means of cure is not yet in sight. The only hope for the cancer patient still lies at present in the general practitioner being so suspicious of all lumps which cannot be explained that he will urge their removal as early as possible, and have them carefully examined by skilled microscopists. Here I would enter a protest against the snipping out of a little piece for diagnostic purposes, for experiment has shown how great is the danger of dissemination of cancer cells in the individual where they are "at home;" however difficult it may be to effect the transference of a cancer from one mouse, rat, rabbit or dog to another, the attempt always succeeds if the same individual be inoculated with his own tumor.—E. F. Bashford in the *Practitioner.*

Injection of Air in Treatment of Sciatica.—F. Ramond and his associates recently reported at the meeting of the Paris Société des Hôpitaux the results of different methods of treatment of sciatica as applied in sixty-five cases. Hypodermic injections of sterilized air were applied in thirty-three cases at the points where the pain was most intense, sometimes at the emerging point of the nerve, in the middle of the thigh, in the calf and occasionally a fourth injection at the sacro-iliac articulation. He injects about two-thirds of a liter of air at each point into the subcutaneous tissue, thus making a continuous emphysema from buttocks to ankle. The air is injected slowly and the relief from pain is immediate and usually constant; the pain returns, however, after eight or ten hours in the unsuccessful cases. The cure was permanent in four of the ten cases rebellious to other measures, and in thirteen of the twenty-three cases in which this was the first measure applied; four other patients were materially improved. A glass tube containing a little cotton is interposed in the rubber tube and bulb connected with the Pravaz needle. The only danger from this treatment is the possibility of air embolism, but this has never occurred, and it is easily prevented by injecting a little salt solution beforehand. If a little edema forms, this shows that the fluid has not entered a vein. The absence of blood if the syringe is pumped also shows that no vein has been entered. Ramond's conclusions from his experience with sciatica are that one method may succeed when all others fail, and that each should be given a trial.

Hematoma of the Adrenal Body.—This unusual case is reported by Case (*Proc. Path. Soc., Philadelphia*, December, 1910, p. 258), in a negress, aged 63, who was admitted to the Philadelphia General Hospital Dec. 29, 1909, and died Jan. 8, 1910. She suffered, while in the hospital, with mitral regurgitation, aphasia, paralysis of the left arm and incontinence of urine and feces. The most interesting finding at autopsy was the left adrenal which was about the size of a goose egg. It was dark red in color, with here and there patches of yellow, much divided and separated cortex, showing beneath the capsule. This enlargement involved approximately two-thirds of the organ, and was due to a comparatively old hemorrhage into the medulla, with here and there areas of fresh blood-clot. In addition, the microscope revealed a moderate proliferation of connective tissue about the clot, with thickening of the capsule. The kidney was arteriosclerotic and the aorta atheromatous.

Humidity in the Problem of Ventilation.—Air is more essential to life than food; good air is as essential as good food, and plenty of air has the same merit as plenty of food, says D. D. Kimball (*Annals American Academy of Political and Social Science*, March, 1911). In the process of respiration, oxygen is reduced in amount while the carbonic acid and water vapor are largely increased. Neither water vapor nor the carbonic acid, due to respiration, is injurious; but as an increase of carbonic acid in the air of an apartment is usually accompanied by a decrease in the amount of oxygen and an increase of water vapor, the percentage of carbonic acid is an index of the quality of the air. Apparently it is not altogether the chemistry of the air but its temperature, humidity, motion and, possibly, other physical properties unknown, which are the attractive features of outdoor air. It is becoming generally believed that when air contains a normal proportion of oxygen its temperature and humidity are of greater importance than the absence of carbonic acid. The proper control of the temperature of a room is not only conducive to health and comfort, but means a substantial saving in fuel. Headaches, dizziness, sickness, etc. are often symptoms of bodily heat retention due, chiefly, to high room temperature and lack of humidity. The relative humidity of outdoor air at other times than during storms varies from 50 to 80 per cent. and in the most arid desert is rarely as low as 30 per

cent., while a relative humidity of 48 per cent., that of Denver, is considered very dry. Air at zero F. and 50 degrees of relative humidity contains less than ¼ of a grain of moisture per cubic foot. The same air warmed to 70 F. without the addition of moisture would have a relative humidity of but 3 per cent. Its absorptive capacity is, therefore, immensely increased. If air at zero F., with a relative humidity of 50 per cent. is raised to 70 F. the relative humidity of the air in a house will be from 10 to 20 per cent. drier than the air of the driest desert known. If a room at 68 F. is not warm enough for a healthy person, we may be sure it is because the relative humidity is too low. With a zero temperature and 50 per cent. relative humidity out of doors, the proper ventilation of a school room containing forty pupils would require, approximately, 38 pounds, or about 5 gallons, of water each hour to give them the proper humidity. The remarkable avidity of dry warm air for moisture causes it to extract moisture from everything with which it comes into contact, and when the tissues and delicate membranes of the respiratory tract are subjected to this drying process a large increase of work is placed on the mucous glands. This unnatural stimulation may result in an enlargement of the gland tissues, just as constant exercise increases the size of any part of the animal organism. The membrane itself may become thickened and harsh, and the surface prepared for the reception of disease germs, which tend to develop under exposure to the constantly changing percentages of humidity. Not alone are the throat and lungs affected; the tongue, lips and skin become feverish and parched, the eyes redden and smart, the ears are unnaturally dried; catarrh is induced, or is aggravated if already existing. In children predisposed to lung diseases, a serious hacking cough is apt to result. Over-dry air causes headaches, robs all of vitality, and in every way lowers the vital powers. Generally speaking, dry air is an excitant, sometimes causing sleeplessness and irritability, while moist air seems balmy and has a soothing effect which tends to produce restfulness and sleep.

Association News

THE LOS ANGELES NUMBER

The Annual Convention Issue of The Journal to Contain Full Details of the Meeting

Commencing in February, and continuing at various intervals since, THE JOURNAL has printed in this department various details concerning the next annual session of the American Medical Association to be held at Los Angeles, June 27-30. Railroad rates, list of hotels with rates, list of meeting places, details of special trains and attractions en route have been given. These details will be repeated in the Los Angeles Number of THE JOURNAL, which will be issued May 20. There will be a special illustrated article on Los Angeles, describing its attractions, and showing many pictures of its fine buildings and scenery and vicinity.

One feature of the annual session is the reunions of various colleges and classes. Announcements of some of these have already been received, and more will be welcomed. These announcements are always made at the session, but it will be advantageous to have them made public in advance, so that all interested may plan to attend, if possible, and may know just what to expect. Announcements of this kind should be sent to us early for inclusion in the issue of May 20.

Marriages

JAMES ROY DAVIS, M.D., Chardon, O., to Miss Emma Russell of Cleveland, Oct. 13, 1910.

FREDERICK J. COMBE, M.D., San Antonio, Tex., to Mrs. Carrie Moore Fordtran, at San Antonio, March 21.

ELMER H. HENDERSON, M.D., to Miss Laura B. Owen, both of Louisville, Ky., at Springfield, Ill., April 4.

CAPT. RALPH S. PORTER, M.C., U. S. Army, to Miss Jane H. G. Kilgour of Glen, near Rockville, Md., at Chicago, March 23.

Deaths

Frank Anthony, M.D. Rush Medical College, 1881; one of the most esteemed and best beloved practitioners of northern Illinois, died in Augustana Hospital, Chicago, April 8, from cirrhosis of the liver, aged 53. After his graduation, Dr. Anthony returned to his home city, Sterling, where he practiced with his father and later succeeded to his practice. He was a member of the American Medical Association, American Association of Railway Surgeons, Association of Military Surgeons of the United States, Western Surgical and Gynecological Association, and was at one time president of the Whiteside County Medical Society. He was local surgeon to the Chicago and Northwestern Railway for more than twenty years, and was also surgeon to the Sterling, Dixon and Eastern Electric Railway Company. Dr. Anthony was one of the pioneer members of the medical department of the National Guard, and was for many years a major and surgeon of the Sixth Infantry. He served throughout the Spanish-American War as major and surgeon Sixth Illinois Infantry, U. S. V., in Porto Rico. He had also served the city of Sterling as health officer and Whiteside County as county physician. While he claimed to be nothing more than a country practitioner, Dr. Anthony was a surgeon and gynecologist of no mean ability. In addition to being a physician and surgeon of high attainment, Dr. Anthony had a most lovable personality and his death means a distinct personal loss to his many friends.

Henry Gradle, a pioneer ophthalmologist and otologist of Chicago, a lifelong student and scientist, died at his winter home in Santa Barbara, Cal., April 4, from carcinoma of the bladder, aged 55. He was born in Frankfort-on-the-Main, Germany, came to Chicago when a young child, and received his education there. He graduated from Chicago Medical College in the class of 1874, and at once began practice of his specialty. From 1879 to 1883 he was professor of physiology in his alma mater, and since 1898, has been professor of diseases of the eye and ear. His society membership included the American Medical Association, Heidelberg Ophthalmologic Society, Chicago Ophthalmological Society, and Chicago Laryngological Society. He was attending eye and ear surgeon to Wesley Hospital, and consulting eye and ear surgeon to Mercy Hospital. He was a frequent contributor to the periodicals dealing with his specialty. He was also the author of "Bacteria and the Germ Theory of Disease," which appeared in 1883, and a "Text-Book on Diseases of the Nose, Pharynx and Ear," which was published eight years later.

James Evelyn Pilcher, M.D. Long Island College Hospital, Brooklyn, 1880; major, U. S. Army retired, for many years secretary of the Association of Military Surgeons of the United States, and editor of the *Military Surgeon*, died at his home in Carlisle, Pa., April 9, from diabetes, aged 54. He entered the medical corps of the army in 1883, and five years later was promoted to captain. During the Spanish-American War he served as major and brigade surgeon, U. S. V., and was retired on account of disability in line of duty, Oct. 31, 1900. Since that time he has lived at his old home in Carlisle, Pa., excepting for about two years in Richmond, Va. He suffered for many years from diabetes and was totally blind for the last few months of his life. In addition to his membership in the Association of Military Surgeons of the United States, Major Pilcher had been president and secretary of the Cumberland Valley Medical Association, and was a member of the American Medical Association.

Adolph Gustav Hoen, M.D. University of Maryland, Baltimore, 1873; a member of the Medical Society of Virginia; from 1894 to 1897, in charge of the photo-micrographic laboratory of the anatomical department of Johns Hopkins University; from 1898 to 1900 director of the clinical laboratory of the Suffern (N. Y.) Sanatorium; since 1900, director of the Pasteur Institute, Richmond; and since 1903, lecturer on biology, and director of the histological laboratories of the University Medical College; died at the family homestead in Waverly, Baltimore, March 29, from carcinoma of the stomach and liver, aged 62.

William E. Wilson, M.D. New York University, New York City, 1853; a member of the Colorado State Medical Society, and its president in 1892; a member of the Colorado State Board of Medical Examiners from 1886 to 1888, and its president in 1886 and 1887; assistant surgeon and surgeon of the Tenth Illinois Volunteer Cavalry during the Civil War; professor of materia medica and therapeutics in the University of Denver from 1883 to 1896, and emeritus professor thereafter; a trustee of the University of Denver; died at his home in that city, April 2, from cerebral hemorrhage, aged 78

Horace G. Cates, M.D. Minnesota Hospital Medical College, Minneapolis, 1887; of Los Angeles, Cal.; a member of the American Medical Association, and Pacific Association of Railway Surgeons; for four years coroner of Los Angeles County; district surgeon to the Southern Pacific System; for ten years chief surgeon of the Pacific Electric Company; superintendent of the Crocker Street Hospital, Los Angeles; died in that institution, March 27, from septicemia, due to a pin scratch received while making a surgical dressing, aged 47.

Charles Henry Lewis, M.D. Bellevue Hospital Medical College, 1884; of New York City; a member of the American Medical Association, New York Academy of Medicine, and National Association for the Study and Prevention of Tuberculosis; one of the founders of and visiting physician to the Columbus Hospital, and St. Vincent's Hospital, and president of the medical board; clinical lecturer on medicine in the University and Bellevue Hospital Medical College; died in St. Vincent's Hospital, March 31, from cerebral hemorrhage, aged 53.

Charles Talbot Poore, M.D. College of Physicians and Surgeons, New York City, 1866; a member of the Medical Society of the state of New York; surgeon to St. Mary's Free Hospital; consulting surgeon to the Hospital for the Ruptured and Crippled; a member of the board of governors of St. Luke's Home and of the Woman's Hospital; author of a work on the correction of congenital deformities; a member of the orthopedic faculty of the College of Physicians and Surgeons; died at his home in New York City, April 4, aged 71.

Charles Louser Miller, M.D. University of Pennsylvania, Philadelphia, 1889; a member of the Medical Society of the State of Pennsylvania, and for four years connected with the skin and medical clinics of the Philadelphia Polyclinic; and later ambulance physician of the Good Samaritan Hospital, Lebanon, and a member, secretary and president of the local board of pension examining surgeons; died in the Lebanon Sanatorium, March 24, aged 45.

William D. Stewart, M.D. University of Wooster, Cleveland, 1874; a member of the American Medical Association, and chairman of the medical section of the Toledo Academy of Medicine; twice president of Toledo Medical Society; for twenty-one years a practitioner of Toledo; for more than eighteen years a member of the surgical staff of St. Vincent's Hospital; died at his home in Toledo, March 28, from septicemia, aged 63.

John B. Stewart, M.D. Cincinnati College of Physicians and Surgeons, 1877; a member of the Missouri State Medical Association; formerly a member of the pension examining board of California, Mo.; founder of Clarksburg College; a member of the legislature in 1905; died at his home in Clarksburg, March 17, from cholecystitis, aged 73.

John W. Van Deusen, M.D. New York University, New York City, 1884; a member of the Brooklyn (N. Y.) Medical Association; attending physician to Kingston Avenue Hospital for Contagious Diseases; for twenty-four years an inspector of the department of health; died at his home in Brooklyn, March 28, from nephritis, aged 48.

William C. Karsner, M.D. Jefferson Medical College, 1853; assistant surgeon United States Army during the Civil War; state weigher-of-grain-in-general for Maryland in 1891; for several terms president of the board of commissioners of Chesapeake City, Md.; died at his home in that place, March 26, from heart disease, aged 79.

William E. Norton, M.D. College of Physicians and Surgeons, Baltimore, 1893; of Savannah; a member of the Medical Association of Georgia; local surgeon for the Seaboard Air Line and the Savannah Electric Company; died at Cornwall-on-the-Hudson, N. Y., March 28, from pneumonia, aged 40.

George Benjamin Haines, M.D. Dartmouth Medical School, Hanover, N. H., 1871; of Valley Falls, R. I.; a surgeon-apprentice in the United States Navy from 1862 to 1869, and a fellow of the Rhode Island Medical Society; died at his summer home in East Providence, Oct. 10, 1910, aged 67.

Reynold James McCormack, M.D. New York University, New York City, 1886; a member of the American Medical Association; and a member of the medical staff of the Nursery for Blind Babies; died at his home in Roxbury, Boston, March 29, from chronic nephritis, aged 48.

Robert Percival McKenzie, M.D. McGill University, Montreal, 1904; a member of the British Columbia Medical Society; medical health officer of Rossland, and local surgeon of the Spokane Falls and Northern Railroad; died at his home, January 24, from pneumonia, aged 34.

John A. Bouse, M.D. University of Pennsylvania, Philadelphia, 1875; for many years a practitioner of Harrisburg, Pa.; special medical inspector of the State Department of Health; died at his home in Old Orchard, Harrisburg, March 29, from heart disease, aged 58.

Benjamin Shields Barnes, M.D. University of Pennsylvania, Philadelphia, 1859; a surgeon in the Confederate service throughout the Civil War; died at the home of his daughter in Suggsville, Ala., where he had practiced since the close of the war, March 9, aged 72.

John W. Alexander, M.D. Starling Medical College, Columbus, O., 1872; a veteran of the Civil War; for thirteen years a member and for most of that time secretary of the Licking County Board of Pension Examining Surgeons; died at his home in Newark, O., March 16, aged 65.

Thomas H. McCormick, M.D. Medical College of Fort Wayne, Ind., 1881; a veteran of the Civil War; and for several years a clergyman of the Church of Christ, Marion, which he founded in 1876; died at the home of his daughter in Fort Wayne, March 21, aged 70.

Fenton L. Fulgham, M.D. Kentucky School of Medicine, Louisville, 1880; a Confederate veteran; for fourteen years physician to Mississippi Baptist Orphanage, Jackson; died at his home in Jackson, March 29, from cerebral hemorrhage, aged 70.

William Truman Sexsmith, M.D. Baltimore, 185 .; a surgeon in the Confederate service during the Civil War; formerly a member of the Kentucky State Medical Association; died at his home in Yuma, Ariz., February 19, from cancer, aged 73.

William Hannah Austin, M.D. Rush Medical College, 1869; for forty years a practitioner of Abilene, Kan.; a surgeon of volunteers during the Civil War; died at his home in Long Beach, Cal., Dec. 22, 1910, from cerebral hemorrhage, aged 73.

John Lemuel Thompson, M.D. Jefferson Medical College, 1894; for five years a member of the board of pension examiners of Clarion County, Pa.; and for five years county coroner; died at his home in Washington, March 20, aged 50.

Elizabeth Mabel Henderson, M.D. Queen's University, Kingston, Ont., 1892, and gold medalist of her year; a member of the Hamilton (Ont.) Medical Society; died at her home in that city, March 26, from heart disease, aged 45.

George W. Fels, M.D. Medical College of Ohio, Cincinnati, 1877; a member of the Ohio State Medical Association; died at his home in Cincinnati, March 30, from pneumonia, following an attack of influenza, aged 60.

Albert Richard Gumberts, M.D. Evansville (Ind.) Medical College, 1878; of Rochester, N. Y.; a specialist on diseases of the stomach and intestines; died at his home in that city, March 15, from angina pectoris, aged 53.

Hana Abé, M.D. Laura Memorial Woman's Medical College, Cincinnati, 1896; in charge of a charity hospital in Japan until 1907; died at her home near Westdale, N. Y., February 15, from tuberculosis, aged 39.

J. A. Forgus (license, Arkansas, years of practice, 1907); a Confederate veteran, and mayor of Marked Tree, Ark.; died in St. Joseph's Hospital, Memphis, Tenn., March 25, from septicemia, aged 69.

Doctor Solomon Pearce, M.D. Vanderbilt University, Nashville, Tenn., 1894; a member of the State Medical Association of Texas; died at his home in Westhoff, Nov. 3, 1910, from cholelithiasis, aged 40.

Charles H. Bernstoff, M.D. Marion-Sims College of Medicine, St. Louis, 1897; of St. Louis; died at the American Hospital in that city, April 2, from appendicitis, aged 45.

William Inglis Bradley, M.D. McGill University, Montreal, 1888; gold medalist in chemistry of his year; of Ottawa, Ont.; died in the Royal Victoria Hospital, Montreal, March 23, from tuberculosis.

Anna Sophia Kenney Patch-Lindquist, M.D. Tufts Medical College, Boston, 1896; a member of the Massachusetts Medical Society; died at her home in Boston, March 18, aged 47.

Norman O. Greer, M.D. St. Louis College of Physicians and Surgeons, 1904; of Dupo, Ill.; died in a hospital in St. Louis, March 30, after an operation for appendicitis, aged 38.

Jonathan A. C. Hower, M.D. University of Maryland, Baltimore, 1854; a deputy sheriff for many years; died at his home in Martinsburg, W. Va., March 28, aged 84.

Leon A. LaPalme, M.D. Victoria College, Coburg, Ont., 1878; one of the early residents of Lewistown, Mont.; died at his home in Montreal, Dec. 28, 1910, aged 58.

Richard W. Padgham, M.D. Eclectic Medical College of the City of New York, 1889; formerly a clergyman; died at his home in Geneva, N. Y., March 1, aged 61.

Martin Phifer Crawford, M.D. New York University, New York City, 1881; of Lancaster, S. C.; died in Dr. Prior's Hospital, Chester, S. C., January 11, aged 53.

Herbert Franklin Brethour, M.D. University of Toronto, 1899; of Hamilton, Mont.; died in a hospital in Butte, Mont., March 28, from septicemia, aged 34.

Arthur L. Kendall, M.D. McGill University, Montreal, 1901; of Vancouver, B. C.; died in the Vancouver General Hospital, Oct. 8, 1910, from typhoid fever.

Cain C. Godshaw, M.D. University of Louisville, Ky., 1874; fell from the window of his office in Louisville, April 3, and was instantly killed, aged 55.

Joseph B. Allen (license, Iowa, years of practice, 1886); a practitioner for sixty-five years; died at his home in Hillsboro, Ia., April 7, aged 88.

Lucius D. Huffman, M.D. Jefferson Medical College, 1885; died at his home in Covington, Ky., March 24, from chronic myocarditis, aged 56.

Samuel P. Goudy, M.D. Columbus (O.), Medical College, 1881; died at his home in Jamestown, Pa., March 17, aged 63.

Ingraham Bill Freeman, M.D. Jefferson Medical College, 1856; died at his home in Bridgetown, N. S., February 27.

Alexander C. Scott, M.D. Savannah (Ga.) Medical College, 1867; died at his home in Jacksonville, Fla., March 11.

Gideon Barnaby, M.D., Harvard Medical School, 1872; died at his home in Granville Ferry, N. S., January 10.

J. S. Wilson, M.D. Kentucky School of Medicine, Louisville, 1879; of Macy, Ind.; died at Peru, Ind., March 10.

Franklin Winger, M.D. Jefferson Medical College, 1886; died at his home in Ephrata, Pa., March 15, aged 47.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

BENETOL

During the last few months sensational and ridiculously misleading articles have appeared in the daily press regarding a proprietary preparation called Benetol. The nostrum seems to be advertised by the direct method only to physicians; to the public it goes via the special newspaper article route, as a "marvelous medical discovery." It is but fair to say in this connection, that the newspapers which have published these articles seem to have done so in good faith and in total ignorance of the fact that they were giving the Benetol Company a large amount of free advertising. It is evident that the press agent's work was well done.

Here are a few claims that are made, either to the medical profession or to the public, for Benetol:

"A new germicidal antiseptic marvel."
"The only safe germicidal antiseptic."
"It will cure any germ trouble it can reach."
"Is beneficial rather than dangerous in overdoses."
"The only germicide that can follow and kill germs."
"A laboratory product of the University of Minnesota."
"A chemical which destroys the germs of tuberculosis, typhoid and cancer."
"Ten drops allowed to remain a short time in a gallon of infected water will make the water not only safe to drink, but will make it beneficial as a medicated water."

In the newspaper write-ups on Benetol, its discoverer is given about the same degree of publicity as the drug. Benetol is said to have been "dicovered" by "Prof. H. C. Carel, Head of the Department of Medical Chemistry and Toxicology, University of Minnesota (Retired)."

In many of the newspaper articles it is implied that Carel is still a member of the faculty of the University of Minnesota. The facts are, Carel has not been connected with this institution for some years. His connection with the university ceased at the time he exploited a hair restorer—"Hygenol." In selling his cure for baldness, he attempted then, as he is attempting now, to make capital out of the good name of the university—and the board of regents saw to it that Carel's connection with the university was severed. The attempt, therefore, to exploit Benetol as "a laboratory product of the University of Minnesota," is both an outrage on an institution of learning and a fraud on the purchaser.

In one of the press-agent notices on Benetol, the claim is made that the War Department has investigated Carel's "New Discovery" and that the heads of the department have urged the government to secure the "sole information and ownership" of Benetol. As a clincher it goes on to say:

"An emissary is being sent to Prof. Carel to enter into negotiations, and for the first time in its history the United States government may go into the germicide business."

An inquiry at the War Department, regarding the veracity of the statements given in the exploitation of Benetol, brought the following statement from the office of the surgeon-general:

"As you have surmised, there is no foundation of truth in the statement which you inclose with reference to the use of 'Benetol' by the medical department of the Army. This office has not authorized the purchase of any 'Benetol' nor has it investigated its merits."

Greatly reduced photographic reproduction of a full-page newspaper write-up of Benetol. Under the portrait of the "inventor" of Benetol appears the statement "Prof. Herbert Charles Von Fuerstenburg Carel, of the University of Minnesota, the inventor of Benetol." This write-up appeared in the Philadelphia *North American*, a paper that treats "patent medicine" fakers with scant courtesy. It was the appearance of such an article in a paper of this type that caused us to investigate the method by which the exploiters of Benetol got their product into the newspapers in this form.

Nor was the army alone the only department of the government that was credited with waxing enthusiastic over Carel's nostrum. It was claimed that the stuff had been tested in the navy. An inquiry addressed to the Bureau of Medicine and Surgery of the Department of the Navy brought the following statement:

"This Bureau has never issued 'Benetol' for use in the Navy and does not contemplate doing so, having no knowledge of, nor interest in, this preparation."

In view of the claims that have been made for Benetol its composition is a matter of interest. What is this marvelous germicide; this "chemical," which destroys the germ of cancer; this wonderful discovery which "for six years Prof. Carel toiled night and day" to produce; this potent typhoid destroyer, 10 drops of which in a gallon of infected water will make the water not only safe but beneficial; what is this new medical wonder? This inquiry was referred to the director of the Association's Chemical Laboratory and secretary of the Council on Pharmacy and Chemistry, who replied:

"Chemical examination of benetol shows that it is a solution of alpha-naphthol containing about 18 gm. of the substance in 100 c.c. The solvent appears to consist of water, glycerin and soap. Alpha-naphthol is a well-known substance, closely related to, but not identical with, beta-naphthol which is

official in the United States Pharmacopeia. The claim made in the advertising matter for Benetol, that it is a newly discovered compound is absurd. It is not a chemical compound but a simple solution of the well-known substance alpha-naphthol in the still better-known substances, glycerin, soap and water."

Treatment by New Remedies

In his new "Pocket-Book of Treatment," Ralph Winnington Leftwich, M.D., has the following to say about "the very latest" in therapeutics:

"The young practitioner purrs when he is told he is up to date. When he becomes more experienced he will have discovered that it is safer to be, say, six months behind the times. In fact, the up-to-date physician may be defined as a man who experiments on his patients. Leaving on one side remedies which are introduced to the profession for purely commercial reasons, a new remedy, or a new application of an old one, is to its discoverer what a new-baby is to its mother—wonderful and unparalleled! In both cases, and without any dereliction from good faith, the judgment is biased. The remedy is introduced with a fanfare of trumpets loud in proportion to the status of the originator. Chemists [druggists] stock it, and other manufacturers not only imitate it, but puzzle their brains in coining fresh trade-marks which they hope will induce the public to think that theirs is the real original product, *et puis bon soir!* For, twelve months afterward, it is forgotten by all but the exasperated chemists [druggists] who have stocks of it left on hand. Sometimes, as in the case of a well-known preparation of arsenic, it is found to be downright dangerous.

"No, except for incurable cases, it is time enough to prescribe a preparation when it has stood the test of ample independent trials. Let others do the experimenting. New preparations are sometimes made in this way: A manufacturer, running his eye down a book on therapeutics, finds, perhaps, seven different drugs recommended for a certain disease. He makes a kind of canister-shot by combining the whole of them under a trade-mark name, introduces it to the profession, and gets it more or less widely recommended. He then feels strong enough to spend thousands on advertising it to the general public, and the latter complacently dose themselves with it. Such preparations must be left severely alone; for every physician should be equal to making any necessary combinations in a prescription. A proprietary medicine is like a ready-made suit: a prescription is 'made to measure.'

"In a different and often very useful category, are some of those synthetic products which, based on sound chemical reasoning, are tested first on animals and later only on patients."

Correspondence

Uncinariasis in Students in Texas

To the Editor:—THE JOURNAL, March 18, 1911, contains the following erroneous statement under the heading of "Medical News":

"Recent investigations among the students of the medical branch of the University of Texas, at Galveston, revealed the fact that 43 per cent. of the students are afflicted with uncinariasis."

In 1901, while Dr. Allen J. Smith was professor of pathology in the University of Texas, he examined the stools of eighty-six students in this institution and found eight of them, or 9.3 per cent. of the number examined, infested with hookworm. He described these results in full in his paper on "Uncinariasis in Texas" published in the *American Journal of the Medical Sciences* for 1903, Vol. cxxvi, pp. 768-798.

Last year, Dr. James Greenwood, Jr., demonstrator of medicine, in the routine laboratory course in clinical medicine, requested those members of the junior class who found an excess of eosinophils in their blood to have their stools examined. He found six cases of uncinariasis in a class of fifty-six

During the present session, he made a similar request but found only one case among forty-four students. He did not examine the stools of all of these students, but only of those who had eosinophilia. He has never found uncinaria without eosinophilia, although the latter may exist in other conditions than uncinariasis. This gives an average of seven cases of uncinariasis among 100 students examined by Dr. Greenwood, which is about the same ratio as that found by Dr. Smith.

It is of special interest that in no one of these seven cases found by Dr. Greenwood had the individual any symptoms which would cause him to suspect that he had intestinal parasites or any condition affecting the general health. The parasites were found by accident in a routine examination. In one case, there were some anemia and emaciation, which conditions improved after successful treatment. In the others, the general health and nutrition had not suffered.

On the same page of THE JOURNAL is the following statement:

"The Medical College of the University of Texas, at Galveston, is asking the legislature to grant the use of the quarantine fees at Galveston for the establishment and maintenance of a hospital in connection with the quarantine station at that point."

This statement is in danger of creating the misapprehension that a request has been made to use the quarantine fees for the current fiscal year, or for fees that may be collected in the future.

A bill was introduced in the last legislature providing for the transfer of a balance in a special quarantine fee fund at Galveston, amounting to about $13,000, to build pavilions for isolating and handling cases of contagious diseases. This fund was created in 1907 for building a residence for the state quarantine officer and repairing the quarantine station at Galveston. The balance remained after the completion of the improvements contemplated in the special appropriation of 1907 and could not be diverted for any other purpose except by act of the legislature.

WILLIAM S. CARTER, Galveston,
Dean of the University of Texas.

Nail in Chicken Gizzard

To the Editor:—The following account may prove of interest:

I have before me, on my desk, a dried chicken gizzard which has been opened and cleaned in the usual manner. Through the thick part of one half is a round aperture. ⅛ of an inch in diameter—in the dried specimen—at the internal opening and ¼ of an inch in diameter on the external surface. Through this aperture extends a six-penny box nail, its head being on the internal surface of the gizzard. The head of the nail and the portion of it within the wall of the viscus are much corroded.

The history of the curiosity, given me with the specimen, is as follows:

The fowl from which the organ was taken was one of a flock of three dozen slaughtered at the age of about five months. Under ordinary observation with the rest of the flock no signs of indisposition had been noted, this fowl coming with the rest to each feeding and behaving in a normal manner. When slaughtered it was found, however, to be "light and poor" instead of fat as were the others. When opened for cleaning the bowels were found to be "black" and covered with a dark, thick fluid. The liver was hard and "black," there were adhesions about the "gizzard," and the nail was visible, protruding through the wall of the viscus about "¾ of an inch."

To me the points of interest are the facts that the fowl could have swallowed the nail in the first place; and that it could have survived resulting injury so long without greater disability, for that the nail had been present for some time is evidenced by the degree of emaciation of the fowl and the extent of corrosion of the nail—granting that the nail was not previously corroded, which from the appearance of the specimen is a possibility only.

H. LA MONT YOUTZ, Willow City, N. Dak.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FETAL HICCUP

To the Editor:—Please give me the etiology, and significance, with relation to viability, of fetal hiccup. Also give me the references to articles bearing on fetal hiccup and other fetal movements.

I have a patient in the thirty-sixth week of a second pregnancy who directed my attention to a regular throb, beat or tap produced by the fetus; it is strongest in the region of the mother's navel, occurring with remarkable regularity about eighteen times a minute, and occurring about half the time, both day and night. Along with this throb are the other fetal movements—squirming, leaping, etc. The first pregnancy in this patient was normal in every way, and the baby normal for the first forty-eight hours, after which convulsions began, ending in death after six hours. The cause of these convulsions has never been clear to me nor to the men associated with me on that case, unless they came from some cerebral trauma during birth. The mother is very anxious for a child and more than usually apprehensive over abnormal conditions, and therefore called my attention to the throbbing described above.

It was new to me, and I found no enlightenment either from questioning my multiparous patients, or in the authorities, except in Edgar. In his second edition, discussing "quickening," p. 130, he says: "Among fetal movements should be included fetal hiccup." I did not find elsewhere in his book any explanation of fetal hiccup—hence my inquiry. "Fetal hiccup," if it were a true name, would seem to me to be a dangerous phenomenon—for hiccup means contraction of diaphragm muscles followed by inspiration. If a fetus really hiccuped wouldn't it draw in amniotic fluid, and by constant repetition completely fill the lungs with fluid, and therefore be drowned before having had a chance to breathe?

R. H. BROOKS, Claremont, N. H.

ANSWER.—During the last twenty years several writers have reported cases of fetal hiccup. The movements that have been ascribed to hiccup-like contractions of the fetal diaphragm have been noticed in the latter part of pregnancy and generally can be felt by the mother. They are felt as sharp, quick impulses, about fifteen to twenty a minute, and lasting usually for a minute or two, when a quiet interval occurs. Sometimes they continue uninterruptedly for ten minutes The impulse can be felt by the hand placed on the abdomen and heard by the ear or phonendoscope. They are generally best heard in one of the lower uterine quadrants over the chest of the child. Ahlfeld, who has studied these movements with a kymographion and made numerous investigations, believes that they are more frequent in the early part of pregnancy and can be heard even before the heart-tones.

The cause and significance of this phenomenon are related to the question of fetal respiratory movements, which has been studied by Ahlfeld. The best discussion of this subject, as well as that of singultus, is in a paper by him in the *Monatsschrift für Geburtshülfe und Gynäkologie*, 1905, page 143, in which references to the cases reported up to the date of the article are given. Ahlfeld finds regular movements of the child which register on the kymographion from sixty to eighty a minute, which he holds must be due to fetal respiratory movements. The object of these movements is the preparation of the respiratory muscles for their function, which is exercised as soon as the child is born. The respiratory movements also help in the development of the ribs and the joint surfaces connecting them with the spinal column. Preyer in his "Physiology of the Embryo" says: "The new-born moves itself immediately after birth as it was accustomed to move before birth, with the exception of breathing and trembling." Ahlfeld completes this law as follows: "The new-born child makes only such movements as it has already made in the uterus. These movements are, of course, modified by the changed condition of the new-born." Ahlfeld regards the usual physiologic fetal inspiration as only superficial, as that is all that is necessary to the development of the respiratory organs. Probably the inspired fluid does not reach beyond the bifurcation of the trachea. How fetal hiccup is related to fetal respiration, and also how it is related to the common post-natal hiccup, Ahlfeld does not attempt to explain. He believes, however, that it occurs as a physiologic function of the diaphragm in practically all persons. Ahlfeld's theory of intra-uterine respiration and singultus has not been generally accepted, nor has it been satisfactorily refuted.

FORMULAS FOR ASTHMA REMEDIES

To the Editor:—Please give me a formula for an asthma remedy to be ignited under a paper cone or other convenient apparatus, and inhaled by the patient. There are a number of so-called asthma cures on the market, all of which have a similar composition (lobelia, stramonium, digitalis, hyoscyamus, tobacco, potassium nitrate, etc.), and one afflicted with asthma sooner or later finds one that affords him temporary relief. Kindly refer me to some work where I can find the formulas that have given the greatest satisfaction. M. H. FARMER, M.D., Virden, Ill.

ANSWER.—A French asthma cigarette contains the following ingredients (Yeo):

Belladonna leaves	5½ parts
Hyoscyamus leaves	2¾ parts
Stramonium leaves	2¾ parts
Phellandrium aquaticum	1 part
Extract of opium	⅛ part
Cherry laurel water	a sufficiency

The dried leaves are cut small, mixed well and moistened with the opium which has been dissolved in the cherry laurel water. A small amount of potassium nitrate is added in order that the cigarettes may burn readily.

Some patented preparations contain lobelia, and something similar to Himrod's "cure" is as follows:

Powdered lobelia.
Powdered black tea.
Powdered stramonium leaves, each 1 ounce.

On this is poured 2 ounces of a saturated solution of potassium nitrate, which is thoroughly mixed and allowed to dry (Yeo). Portions of this are then burned and the patient inhales the fumes.

B.	gm.		
Potassii nitratis	15		
Pulveris anisi	15	or	āā, ℥ss
Pulveris stramonii	30		℥j

M. et fac pulverem.

Sig.: Ignite a thimbleful of the powder and inhale as directed. (THE JOURNAL, Jan. 2, 1909, p. 51.)

B.

Pulveris belladonnæ foliorum
Pulveris hyoscyami foliorum
Pulveris stramonii foliorum
Potassii nitratis āā℥j

M. et sig.: Half a teaspoonful to be burned at one time.

B.

Stramonium leaves	℥iv
Green tea	℥iv
Lobelia	℥jss

Mix and pour on the mixture enough saturated solution of potassium nitrate to wet it. Dry it and keep in closely stoppered bottle.

B.

Daturæ tatulæ	℥ij
Stramonii foliorum	℥ij
Cannabis indicæ	℥ij
Potassii nitratis	℥ij
Olei eucalypti	℥ss

Mix thoroughly.—(An Index of Treatment: Hutchinson and Collier, p. 80.)

Cigarettes made of paper soaked in a solution of nitrate of potassium and belladonna may be smoked or they may be made in the following manner:

B.

Belladonnæ foliorum	40	gr. vj
Hyoscyami foliorum	2	gr. ij
Stramonii foliorum	2	gr. ij
Extracti opii	015	gr. ¼
Aquæ laurocerasi		q.s.

M. These various leaves are broken up like commercial tobacco and moistened by adding the cherry-laurel water, which should contain the opium. Finally, a whole leaf soaked in the same fluid is used as a cover, or a piece of cigarette paper may be employed in the same manner. (Hare's Practical Therapeutics, p. 619.)

LITERATURE ON MUNICIPAL SANITATION

To the Editor:—Can you give me information or cite literature on the subject of municipal sanitation? I am particularly desirous of suggestions as to some method of dealing with stables and stable manure in order to diminish the propagation of flies.

C. A. WOODARD, Durham, N. C.

ANSWER.—As is well known, stable manure is one of the most frequent breeding-places for flies, and probably the most practical method of preventing them from propagating would be stringent regulations requiring the daily cleaning of stables and the storing of the manure in closed or carefully screened bins, with frequent removal of the manure.

The prevention of flies in cities, of course, involves the prevention of the accumulation of other sorts of waste, including garbage, in which flies may breed. Numerous editorials and articles have appeared in THE JOURNAL concerning flies as carriers of disease, and their prevention, and on other phases of municipal sanitation. A list of these, together with some books on municipal sanitation and hygiene, will be found below:

Editorial: Abating the Fly Nuisance, THE JOURNAL, Aug. 20, 1910, p. 700; this issue of THE JOURNAL also contains an editorial on the hypochlorite method of purification of water and refers to an article on this subject (Paper 229; U. S. Geological Survey, 1909).

Editorial: The Fly and Typhoid Fever, THE JOURNAL, Nov. 19, 1910, p. 1812.

Flies as Carriers of Infection, London Letter, THE JOURNAL, Oct. 15, 1910, p. 1390.

Orton and Dodd: Transmission of Bacteria by Flies, etc.; *Boston Med. and Surg. Jour.*, Dec. 8, 1910; abstracted in THE JOURNAL, Dec. 24, 1910, p. 2267.

Felt, E. P.: Methods of Controlling the House Fly, etc., *New York Med. Jour.*, April 2, 1910; abstracted in THE JOURNAL, April 16, 1910, p. 1335.

Beyer, H. G.: Dissemination of Disease by the Fly, *New York Med. Jour.*, April 2, 1910; abstracted in THE JOURNAL, April 16, 1910, p. 1335.

Editorial: Sanitary Side of the Garbage Question, THE JOURNAL, April 30, 1910, p. 1447.

Dutton, W. F.: Bluebottle Flies as Carriers of Infection, THE JOURNAL, Nov. 6, 1909, p. 1561.

Utilization of Garbage, Department of Queries and Minor Notes, THE JOURNAL, April 2, 1910, p. 1157; in this article are references to works on sanitation.

Disposal of Garbage and Filtration of Water-Supply, Department of Queries and Minor Notes, THE JOURNAL, July 3, 1909, p. 43.

Articles on Disposal of Excreta, U. S. Public Health Reports, Aug. 19, Nov. 11, Nov. 18, and Dec. 16, 1910.

Chapin: Municipal Sanitation in the United States, Providence, R. I., 1910, the Providence Press.

Goodrich: Disposal of Refuse, Wiley, New York, 1901.

Baker. Municipal Engineering and Sanitation, New York, 1902, Macmillan Co.

Godfrey, H.: The Health of the City, Houghton, Mifflin & Co., Boston, 1910.

Primer of Sanitation, World Book Co., Yonkers, N. Y., reviewed in THE JOURNAL, Feb. 19, 1910, p. 642.

Prudden, T. M.: Dust and Its Dangers, G. P. Putnam's Sons, New York, 1910.

FETAL CIRCULATION

To the Editor:—1. What causes the pulse-wave in the umbilical cord? 2. Is this wave toward or from the child? 3. Is the circulation of the fetal blood caused by the fetal heart or is it maternal? 4. Does any maternal blood enter the fetus? 5. Can the placental souffle be heard after the death of the fetus?

ANTONIO D. YOUNG, Oklahoma City, Okla.

ANSWER.—1. The pulse-wave in the umbilical cord is caused by the beating of the fetal heart.

2. The pulse-waves are essentially arterial impulses and pass from the heart to the periphery along the arteries. Therefore the pulse of the umbilical cord is in the artery and the wave passes from fetus to placenta, "from the child."

3. The circulation of the fetal blood is caused solely by the contractions of the fetal heart.

4. No maternal blood enters the fetus. The maternal blood circulates through sinuses of the placenta, bathing the villi within which the fetal blood circulates. Through the thin-walled membrane of the villi the oxygen of the maternal arterial blood diffuses and combines with the hemoglobin of the fetal blood, after which it returns to the fetus through the umbilical veins. It may be said in passing that the umbilical artery carries impure blood from the fetus to the placenta, where it is purified first through the loss of carbon dioxid, and, second, through the diffusion of waste products into the maternal blood, where it is oxygenated as described above and replenished by the diffusion of food materials from the maternal blood into the fetal blood.

5. The placental souffle or murmur is sometimes called the uterine souffle and is heard over the site of the placenta. It might be mentioned that the uterine souffle may also be heard over uterine fibroids, which fact necessitates some care in discriminating between a fibroid tumor and pregnancy. The placental souffle may be heard after the death of the fetus. The term "souffle" is also applied to a murmur that is heard in the umbilical cord. This is called the fetal souffle. If the cord should become looped around the neck or leg of the fetus, and thus become constricted, a souffle may be heard. This fetal souffle, due to the pulsation of fetal blood through a constricted segment of umbilical cord, will of course cease the moment the fetal heart ceases to beat.

ACUTE TONSILLITIS

To the Editor:—1. What are the causes of acute tonsillitis?
2. What is the proportion of cases due to non-microbic factors?
3. Is the ordinary iron mixture or any astringent beneficial in the acute stage, or should the use of such preparations be confined to the later stage in which the tonsils have been freed of all exudate?
4. What is the pathology of the white cheesy exudate?
By answering these questions you will help me to understand an illness which is common but not entirely clear to me.

SAMUEL LEVINE, M.D., Brooklyn.

ANSWER.—1. The principal causes of acute tonsillitis are exposure to cold and sudden thermic changes, especially in persons of rheumatic diathesis. Tonsillitis is frequently associated with menstruation. Among other causes, we may mention traumatism such as irritating fumes and vapors. Predisposing causes are nasal or postnasal irregularities, general lowered systemic tone, and various gastro-intestinal disturbances.

2. A definite answer cannot be given. There are a great number of microbes in the fauces continually, either in well or ill people. What the influence of these microbes may be in the development of the inflammation has never been definitely determined.

3. The iron mixture and other stimulating or astringent applications are often beneficial in the early stages of the disease, more so than in the later stages. In the late stage, tonics are useful. In the early stage, the inflammation may sometimes be aborted by stimulating applications. The most satisfactory consists of equal parts of guaiacol and almond oil to be used as a spray once a day. This causes intense burning for about a minute, but afterward gives great relief from pain for hours and in a considerable percentage of cases, will materially cut short the attack.

4. These cheesy masses consist of fibrinous exudate, necrotic epithelial cells, bacteria and the earthy matter from the ordinary secretions of the tonsils.

REMOVAL OF FOREIGN BODIES FROM THE CONJUNCTIVA

To the Editor:—I recently ran across an extraordinary statement in Berry's "Manual of Practical Ophthalmology," Lippincott, 1905. It is part of the subject matter "Foreign Bodies in the Conjunctiva" page 132. Speaking of removing them the author says: "Attempts at removing them, without eversion, with a camel's hair brush or the tip of the tongue passed below the upper lid, should not be made."

Such surgical technic is beyond my comprehension or imagination. Why a modern text-book should have such stuff incorporated in its text goes beyond me.

W. L. MOORE, Honolulu, H. T.

ANSWER.—The removal of foreign bodies from the external ocular apparatus by the laity as well as by some members of the medical profession is, to say the least of it, often an extraordinary procedure. In certain countries the attempt by the former to dislodge foreign substances from the conjunctival sac with the tip of the tongue is a common experiment, while the camel's-hair brush is not infrequently employed (beneath the uneverted lid) by inexperienced physicians for the same purpose. Consequently Berry's reference is to some extent apropos, although he might have elucidated the rather obscure allusion to these attempts.

A layman realizes, of course, that the important thing is to remove the foreign body. In the process, however, considerable damage is often done to the conjunctiva. It might be well for the laity to know the value of a saturated solution of boracic acid, which is very soothing after a foreign body has been taken from the eye. It has most of the merits of the many eye nostrums on the market, as boric acid is the chief constituent of many of them. Such a solution is kept on hand in many households, and it ought to be a more common adjunct of the family medicine chest. It would help to alleviate the trauma often caused by well-meaning but unskilful attempts at removing the offensive foreign body.

SODIUM GLYCOCHOLATE AND CHOLESTERIN TESTS FOR SYPHILIS

To the Editor:—Please give me information about sodium glycocholate and cholesterin tests for syphilis or tell me where I can procure the desired information, including the technic.

J. D. REENG, M.D., San Francisco.

ANSWER.—The tests referred to have not proved specific and, we believe, are now generally abandoned. Descriptions of them may be found in the articles by W. J. Butler, "Serum Diagnosis of Syphilis," THE JOURNAL, Sept. 5, 1908, p. 824, and "The Serum and Precipitate Reactions for Syphilis and Their Clinical Value," THE JOURNAL, April 2, 1910, p. 1115. Other references to the subject are the following:

Wassermann: Berlin. klin. Wchnschr., 1907, lxiv, 1599.

Landsteiner, Müller and Potzl: Wien. klin. Wchnschr., 1907, xx, 1564.

Levaditi and Yamanouchi: Compt. rend. Soc. de biol., 1907, lxii, 741.

Fleischmann: Berlin. klin. Wchnschr., 1908, lxv, 490.

Sachs and Altmann: Berl. klin. Wchnschr., 1908, lxv, 494, 699.

Porges: Wien. klin. Wchnschr., 1908, xxi, 206.

Nobl and Arzt: Wien. klin. Wchnschr., 1908, xxi, 287.

Fritz and Kren: Wien. klin. Wchnschr., 1908, xxi, 386.

Eisler: Wien. klin. Wchnschr., 1908, xxi, 422.

Kraus: Wien. klin. Wchnschr., 1908, xxi, 206.

Porges and Meier: Berlin. klin. Wchnschr., 1908, lxv, 731.

Klausner: Wien. klin. Wchnschr., 1908, xxi, 213.

Klausner: Wien. klin. Wchnschr., 1908, xxi, 363.

Mefford: New York Med. Jour., Oct. 31, 1908.

POEHL'S SPERMIN IN ARTERIOSCLEROSIS

To the Editor:—In a recent number of the *Gazette méd. belge*, xxi, No. 43, p. 424, I read a detailed report of five cases of arteriosclerosis in which the patients were all markedly improved and some of them apparently cured by a course of "Sperminum Poehl," an advertised remedy which I have always distrusted and never prescribed. I am now suffering myself from a somewhat advanced case of arteriosclerosis and would like to try this remedy if the Council has learned anything in favor of it and if there is no reason to fear bad effects from it. X. Y. Z.

ANSWER.—Apparently the exploitation of Poehl's spermin passed several years ago from the domain of experimental medicine to that of nostrums advertised to the laity. So far as we know, it has received no recent discussion from reliable clinicians or experimenters. In some medical journals, as also in lay journals, it is true, one still reads that Poehl's spermin is successfully applied in "neurasthenia, senile marasmus, anemia, rachitis, gout, chronic rheumatism, syphilis, hysteria, tuberculosis, typhus, diseases of the heart, nephritis, tabes dorsalis, paralysis, neurasthenic impotence, overwork, acute diseases, and for convalescents." Few quack advertisements would differ much from this puff of Poehl's spermin. So far as we know, there is no reason to fear injurious results from the use of the remedy; neither might any good be expected from its use in arteriosclerosis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 8, 1911.

Thomason, Henry D., captain, ordered to proceed to Jefferson City, Mo., on official business relative to the reorganization of the sanitary troops of that state.

Chase, Chauncey L., M.R.C., ordered to active duty and assigned to station at Fort Oglethorpe, Ga.

Davis, Arthur O., lieut., ordered to proceed from Fort Oglethorpe, Ga., to San Antonio, Texas, for duty with maneuver division at that place.

Wales, Philip G., M.R.C., reported for temporary duty at Fort Miley, Cal.

Bourke, James, captain, in addition to his duties at Fort Crockett, Texas, will report to the commanding general, first separate brigade, for duty as medical supply officer of that brigade.

Wing, F. F., D.S., reported for temporary duty at Fort Robinson, Neb.

Bourke, James, captain, will, in addition to his other duties, perform the duties of medical superintendent, transport service, at Galveston, Texas.

Moncrief, William H., captain; Pyles, Will L., captain; Casper, Joseph, lieut., and Sherwood, Joseph W., M.R.C., will proceed to Galveston, Texas, and report to the commanding general, first separate brigade, for duty.

Nichols, Henry J., captain, detailed to represent the medical department of the Army at the eighth annual meeting of the American Society of Tropical Medicine, New Orleans, May 18 and 19, 1911.

Craig, Charles F., captain, will proceed to Montgomery, Ala., for the purpose of delivering a lecture, April 18, before the medical officers of the Alabama National Guard on the subject of malarial disease.

Le Hardy, Julius C., M.R.C., on completion of such duty assigned him by commanding general, department of California, will proceed to Fort Ward, Wash., for duty.

Medical Corps, U. S. Navy

Changes for the two weeks ended April 8, 1911.

Haynes, J. P., P. A. surgeon, ordered to the naval station, Olongapo, P. I.

Huff, E. P., asst.-surgeon, detached from the naval hospital, Canacao, P. I., and ordered home.

Michaels, R. H., A. A. surgeon, ordered to the marine recruiting station, Chicago.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 5, 1911.

Wasdin, Eugene, surgeon, placed on "waiting orders," effective Sept. 22, 1911.

Cumming, H. S., surgeon, directed to proceed to Fisherman's Island, Va., on special temporary duty.

Foster, M. H., P. A. surgeon, directed to proceed to Bureau for consultation. Relieved from duty at Ellis Island, N. Y., and directed to report to the commissioner of education, department of the interior, for duty in Alaska. Granted seven days' leave of absence from April 3, 1911.

Billings, W. C., P. A. surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Earle, B. H., P. A. surgeon, leave of absence for thirteen days from March 1, 1911, amended to read "ten days from March 2, 1911."

Chapin, C. W., asst.-surgeon, granted seven days' leave of absence from March 22, 1911, under paragraph 191, Service Regulations.

Draper, W. F., asst.-surgeon, directed to report to the commanding officer of the Revenue Cutter *Bear* for duty.

Schwartz, Louis, asst.-surgeon, directed to proceed to Seattle, Wash., and report to the commanding officer of the Revenue Cutter *Tahoma* for duty.

Moorer, M. P., A. A. surgeon, granted ten days' leave of absence from March 28, 1911.

Story, H. C., A. A. surgeon, granted thirty days' leave of absence from May 1, 1911.

Board of medical officers convened to meet at the Marine Hospital office, customs house, New Orleans, on April 3, 1911, for the physical examination of candidates for appointment as cadet-engineer in the Revenue-Cutter Service. Detail for the board: Passed Assistant Surgeon A. D. Foster, chairman; Acting Assistant Surgeon J. T. Scott, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

INDUSTRIAL DISEASES AND PHYSICIANS

JOHN B. ANDREWS

Secretary, American Association for Labor Legislation

NEW YORK CITY

The average American feels the magnitude of the national growth; he sees something of the result of the combined labor of millions of workers; he realizes, to some extent, that his country has leaped into the van of civilization, and he believes implicitly in his country and in himself. But the average man is an empirical observer. So far as mere physical achievement goes, he sees aright. His perception of the magnitude of individual and national effort, his knowledge of the volume of production, is right. But he fails utterly to understand that the tremendous social forces that have been evolved, and that have made these things possible, have necessarily wrought profound changes in social relations, in social needs, and in the relations of the individual to society.

Of all professional men, perhaps the most definitely social in his service is the physician. His duties bring him into the most important and intimate human relations. His knowledge is purchased only by many years of highly specialized training, and the medical profession, as a natural result, becomes the guardian of the public health. The average modern man does not stop to reflect that he is impossible without the physician, who attends his entry into the world, keeps him in it as long as is humanly possible, and in the end sees him out of it.

But the contrary is equally true, for the physician is possible only because of the modern man, to understand whom the physician needs a clear knowledge of his patient's normal environment, and this the physician does not require as part of his necessary training. An examination of the overcrowded medical curriculum gives no indication of the fact that we live in an industrial society. The result is that a large percentage of physicians fail to realize the occupational source of many diseases, as has been shown by investigations.

An enormous range of diseases is directly attributable to the patient's work. The disease is contracted by him as an immediate result of his occupation, or his occupation produces conditions that foster the contracting of diseases, such as tuberculosis, neurasthenia and anemia. The bald statement of this fact is but a truism, known more or less definitely to every physician. It assumes vast proportions, however, when it is clearly recognized that the population of our country is a working population, and that there are few if any occupations that a man or woman may follow that do not, without careful regulation, produce sickness in one form or another, or contribute conditions that make the worker liable readily to contract disease from which he would ordinarily be immune.

The conditions under which the people of this country work produce in their aggregate the problem covered by the term "industrial hygiene," a problem of comparatively recent recognition among us. We have been so busy making profits that we have had no time to inquire how they are made or what their making entails. We are therefore obliged to go abroad to countries that have studied the subject in order to acquire scientific foundations on which to base our plans for improvement.

Germany and Great Britain have, perhaps, done more than other countries in this direction; and, characteristically, the German investigations are the more complete and systematic.

For want of American data we may base our estimates of the extent of sickness due to occupational conditions on the careful results of German experience. That experience shows that the number of cases of actual sickness is equivalent to 40 per cent. of the number of persons exposed to risk. If, therefore, we take the number of persons engaged in gainful occupations in the United States in 1910 as 33,500,000, we may present the following table, taken from the Memorial on Occupational Diseases presented to President Taft on September 29 last:

ESTIMATE OF SICKNESS AND ITS COST AMONG OCCUPIED MALES AND FEMALES IN U. S., 1910 (33,500,000)

(a) Estimated number of cases of sickness on the German basis of 40 per cent. of the number of persons exposed to risk, 13,400,000.

(b) Estimated number of days of sickness on the German basis of 8.5 days per person *per annum*, 284,750,000.

(c) Estimated loss in wages at an average of $1.50 a day for 6/7 of the 284,750,000 days, $366,107,145.

(d) Estimated medical cost of sickness at $1 a day for 284,750,000 days, $284,750,000.

(e) Estimated economic loss at 50 cents a day for 6/7 of the 284,750,000 days, $122,035,715.

(f) Total social and economic cost of sickness *per annum*, $772,892,860.

(g) Estimated possible economic saving in the health of individual workers on a basis of 25 per cent. reduction *per annum*, $193,223,215.

Objection to these figures may be urged on account of the differences that exist between industrial conditions in Germany and in America. The differences are admitted; but the figures here given would beyond doubt have to be increased on every count.

This country's industry is, to a large extent, innocent of the devices long in general use abroad, and particularly in Germany, for safeguarding the health of the workers. The occasional voluntary efforts of employers are far too spasmodic and unscientific to be regarded as important factors in this connection. The body of factory legislation in America is also pitifully slight, and noteworthy in the main for its lack of scientific knowledge and method. And, when even poorly conceived laws are enacted, the machinery provided for their enforcement is ludicrously insufficient. Industrial regulations in America, as they affect the health of the workers, are as unscientific and chaotic as in any country in the world that claims to possess the elements of western civilization. We have each year about 500,000 industrial accidents, one-half of which might be prevented. We have in our midst every year at least 13,500,000 cases of industrial sickness, involving a loss to society of $772,892,860, and of all this loss we can save at least 25 per cent.

We have, then, to devise means for securing accurate and complete information on the incidence of industrial disease. On this immediate and preliminary necessity, Professor Charles R. Henderson said recently, speaking at the fourth annual meeting of the American Association for Labor Legislation at St. Louis:

> In the social conflict with communicable diseases (scarlet fever, diphtheria, etc.), reports to health authorities are found essential to success. Hidden disease works all the greater damage because it is in the dark. What is brought to light can be fought in the open.
>
> The same is true of occupational diseases. So long as their nature, ravages, causes are concealed, the medical profession is deprived of information it needs, workmen die in ignorance of what kills them, public sentiment on the subject does not exist, legal regulation is not enacted or not enforced.
>
> It is now generally recognized that the members of the medical profession have a special duty to the community in the matter of reporting diseases and facts for vital statistics. They alone have the information; they have received much of their education at public expense in public or endowed schools, laboratories or hospitals; and they are supported by the public; they are excused from various duties which fall to other citizens.
>
> If they neglect this professional duty, misery and death will result.
>
> If they make their reports as perfect as possible, science will be advanced, legislation will be wiser and more effective, and public wealth and happiness will be increased. How many physicians recognize the occupational origin of certain diseases? The investigations of the Illinois Commission on Occupational Diseases have disclosed the unfortunate fact that many physicians do not know the shop origins of certain maladies.
>
> The records of death in the offices of health authorities, coroners, the records of public hospitals, of insurance associations, even when made by medical men, yielded but little information as to the working place and its conditions, the essential matter.
>
> Various diseases of the central nervous system, muscular and respiratory systems give very little direct clue to the causes of such disorders.

The statistical and other precise information that would be made available by the systematic reporting of cases of disease due to occupation would be of the utmost value, and, indeed, would be essential to intelligent action. But the mere classification of diseases does not provide a means for their elimination or diminution. It is necessary that the influence of the physician be felt in the actual place of work.

Adequate factory and workshop inspection is essential, and while it is true that in many branches of this work non-medical men are quite competent, in some of the most vital branches medical men are essential. "Medical men alone," said Dr. William C. Hanson, of the Massachusetts Board of Health,[1] "are in a position to make the best use of facts obtained concerning the sanitary condition of premises where men and women work; to study the possible injurious effects of certain injurious processes on the health of the person engaged therein; to inspect devices designed to protect the employees against injurious and dangerous substances, and to judge of the effects on the health of operatives of such substances, as well as to detect pathologic signs or symptoms of certain poisons, dusts and fumes incident to some occupations; to inquire as to the health of employees, both for the purpose of aiding those found in ill-health or physically unfit for work, and for protecting others from infectious diseases; to make physical examination of minors, and, whenever possible, of adults engaged in trades or occupations deemed to be injurious to health; and to collect and make proper use of all facts and data, including morbidity and mortality statistics, pertaining to occupational hygiene."

It is frequently urged in opposition to the demand for such efficient factory inspection and the necessary legislation, that conditions in America are not nearly so bad as in Europe, and that, in any event, European conditions cannot be regarded as giving a clue to conditions in America. That, however, is mere childishness. No reasonable human being could take seriously the argument that although lead poisons English workers or German workers it does not necessarily poison "American" workers. Such beginnings of scientific investigation as have been conducted in America give us a picture of conditions that constitute a widespread and persistent menace to the national health.

Thus the investigation into phosphorus poisoning in the match industry, carried out in cooperation with the United States Bureau of Labor, produced facts that call for immediate Federal legislation. An intensive investigation in the homes of the workpeople of but three of the sixteen American match factories yielded a total of eighty-two cases of phosphorus poisoning. Detailed investigation in fifteen factories showed that of the 3,591 persons employed, 65 per cent. were working under conditions exposing them to the fumes of phosphorus and the dangers of phosphorus poisoning. Here, as in many other industries, the ignorance or self-interest of many employers prevented them from properly instructing their workpeople concerning even the elementary and at best inadequate precautions against contracting this peculiarly loathsome disease.

The claim made by Dr. Ivy, dental examiner for the Pennsylvania Match Company, that under the present tariff and labor conditions, matches cannot be produced from sesquisulphid of phosphorus by manufacturers in this country

1. Proc. Fourth Annual Meeting, American Association for Labor Legislation.

in competition with foreign manufacturers[2] is absurd. Match manufacturers representing more than nine-tenths of the total output in America, in their desire to abolish "phossy jaw," have voluntarily gone on record in writing as follows:

> In the event of the prohibition of the manufacture of white phosphorus matches, we have no doubt of our ability to supply a strike-anywhere match which will be satisfactory.

It is interesting to recall that the treasurer of the match company which employs Mr. Ivy said in a letter to the U. S. Bureau of Labor (Bulletin 86, p. 131):

> So far as we are concerned, one thing is sure, if there is any substitute for white phosphorus that would eliminate the danger, even if it would cost more money, and considerably more money, I know that our people will be only too glad to adopt it.

Attempted regulation has been abandoned in one country after another after a fair test, and absolute prohibition of the use of poisonous phosphorus in match-making is now recognized as the only sure remedy for this horrible and wholly unnecessary disease.

The report of the Illinois Commission on Occupational Diseases, already referred to, shows the existence of similar dangerous conditions. Twenty-eight trades were investigated, in all of which lead-poisoning may occur, and 578 individual cases of lead poisoning were secured from the records of physicians during the past three years. Physicians will understand that this number is a minimum, because records are not consistently kept by private practitioners, and only recorded cases are included.

A striking illustration of what stringent workshop regulation can do toward decreasing the amount of sickness in occupations is given by Dr. Alice Hamilton. The figures given in her report are further emphasized by the fact that in one place investigated by Dr. Hamilton, where only thirteen men are employed, fifty men are engaged in the course of the year to maintain the minimum staff force. Another place engages 300 men to maintain a force of fifty. Still another, with a payroll of from 450 to 600, loses from 20 to 40 per cent. of its workers every pay day. In all these cases, the men drop out as they become "leaded."

A preliminary investigation into mercurial poisoning in New York and New Jersey produced in three months a record of sixty cases in the hatting industry. In Great Britain, on the other hand, where every case is immediately reported, only ninety-four cases for all industries have occurred in twelve years.

With the exception of phosphorus, lead and mercury poisoning, little, if any, investigations of value have been made in this country into the vast question of industrial poisoning. That extensive investigation carried out by competent authorities is urgently needed can be seen from the following list of poisons that are in every-day use in our industries:

Alcohol, Amyl	Formaldehyd
Alcohol, Methyl	Hydrochloric acid
Ammonia	Hydrofluoric acid
Aniline	Lead
Antimony	Manganese
Arsenic	Mercury
Arseniuretted hydrogen gas.	Nitrobenzene
Benzol	Nitrous gases
Carbon dioxid	Phosphorus
Carbon disulphid	Picric acid
Carbon monoxid	Prussic acid
Chlorid of lime	Pyridin
Chlorin	Sulphur chlorid
Chromium	Sulphuretted hydrogen
Dinitrobenzol	Sulphurous acid

This list does not, of course, exhaust the conditions to be found in industry that are detrimental to health. Dr. Thomas Oliver treats the subject of occupational disease under five general heads: (1) diseases due to gases, vapors and high temperatures; (2) diseases due to conditions of atmospheric pressure; (3) diseases due to metallic poisons, dusts and fumes; (4) diseases due to organic or inorganic dust and heated atmospheres; (5) diseases due to fatigue.

When the wide range of factors affecting detrimentally the health of the workers of America is realized, together with the fact that practically no scientific measures are in operation for their relief, it becomes evident that the problem of industrial disease is one that calls for immediate investigation. The success of such an investigation, and the measures to be taken following it, depend very largely on the cooperation of the medical profession. Physicians can furnish the knowledge that enables the subject to be intelligently and scientifically handled, and on them must devolve the responsibility of reporting to appointed authorities all cases of sickness due to the patient's occupation.

To secure this necessary preliminary step, the American Association for Labor Legislation has introduced into the legislatures of the principal industrial states a uniform bill providing for the reporting of occupational diseases by physicians. The essential parts of this uniform measure are as follows:

> Every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury or their compounds, or from anthrax, or from compressed-air illness, contracted as a result of the nature of the patient's employment, shall send to the Commissioner of Labor a notice stating the name and full postal address and place of employment of the patient and the disease from which, in the opinion of the medical practitioner, the patient is suffering.

It is, of course, recognized that a national investigation of occupational diseases is needed. A most valuable aid in this work would be a clinic for the study of industrial diseases, such as has been established recently at Milan, Italy. Such an institution would be valuable in affording ideal conditions for the study and prevention of occupational diseases, and in connection with a scientific system of recording, it would immeasurably increase the social service of physicians.

Metropolitan Tower.

2. Ivy, Robert H.: The Prevention of Industrial Phosphorus Poisoning, THE JOURNAL A. M. A., April 8, 1911, p. 1018.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—Third Weekly Meeting

DISEASES OF THE NERVOUS SYSTEM (CONTINUED)

CHOREA

ETIOLOGY: Age, sex, season. Relation to rheumatism. Overwork in school, anemia, ocular defects. Heredity. Exciting causes.

SYMPTOMS: Onset of spasms, character, intensity. Course of spasm. Endocarditis. Mental condition. General condition. Duration.

TREATMENT: Hygiene, diet, control of patient. Medicinal treatment, arsenic, sodium salicylate, antipyrin, strychnin, etc.

ACUTE MENINGITIS

I. CEREBROSPINAL MENINGITIS

SYMPTOMS: Clinically may be (a) hyperacute, (b) usual, (c) mild, (d) chronic in form. Onset, vomiting, convulsions, chill, pain, muscular rigidity. Eruptions on skin. Fever. Headache, pain in neck, hyperesthesia. Delirium, apathy, coma, muscular rigidity, opisthotonos. Kernig's sign. Eye and ear symptoms. Respiration, pulse. Blood-count. Course, duration and terminations.

TREATMENT: Medicinal treatment. Serum treatment, technic, results.

II. SIMPLE ACUTE MENINGITIS

ETIOLOGY: Pneumococcus, streptococcus and staphylococcus, colon bacillus, etc. Secondary to acute infections.

DIAGNOSIS: History of previous disease, onset of brain symptoms.

Medical Education and State Boards of Registration

COMING EXAMINATION

GEORGIA ECLECTIC: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

South Dakota January Report

Dr. F. W. Freyburg, Secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Aberdeen, Jan. 11-12, 1911. The number of subjects examined in was 15; total number of questions asked, 125; percentage required to pass, 75. The total number of candidates examined was 32, of whom 29 passed and 3 failed. The following colleges were represented:

PASSED		
College	Year Grad.	Per Cent.
Northwestern University Medical School, (1910) 85.6.	(1899) 90.3; (1909)	84.7;
American Coll. of Medicine and Surgery, Chicago	(1907)	81
College of Physicians and Surgeons, Chicago, 83.6, 88.5.	(1908) 76.2; (1910)	
Rush Medical College	(1895) 75.1; (1908)	87.7
Hahnemann Medical College and Hospital, Chicago.	(1901)	75
Drake University	(1902) 76; (1910)	81.8
State Univ. of Iowa, Coll. of Med.	(1902) 80.9; (1910)	82.1
Keokuk Medical College, Coll. of Phys. and Surg.	(1900)	80.6
University of Michigan, Dept. of Med. and Surg.	(1909)	87.7
University of Minnesota, College of Medicine, 80, 80.4; (1910) 82.9.	(1908) 75.9; (1909)	
Ensworth Medical College	(1909)	79.4
St. Louis College of Phys. and Surg.	(1909) 79; (1910)	77.6
Cornell University Medical College	(1899)	83.6
Jefferson Medical College	(1910)	87.2
Milwaukee Medical College	(1905) 85.7; (1910)	83.3
University of Toronto, Ontario	(1907) 81.2; (1908)	83.5

FAILED		
Bennett Medical College	(1909)	66.1
Drake University	(1902)	73
Creighton Medical College	(1907)	71.9

The following questions were asked:

BACTERIOLOGY

1. What kind of bacteria are most commonly found in suppurative processes. (*b*) Describe them. 2. What are the three sub-divisions of the colon typhoid bacillus group. 3. What do you understand by (*a*) Phagocytes, (*b*) Blastomycetes, (*c*) Thermal Death Point, (*d*) Antiseptics, (*e*) Disinfectants. 4. Describe a diphtheric throat. How would you obtain a culture? 5. How would you dispose of the excreta of (*a*) typhoid patient, (*b*) tubercular patient.

REGULAR THERAPEUTIC AND PRACTICE

1. Describe three of most common intestinal worms and give treatment for one kind. 2. Describe and treat rickets. What is marasmus and scorbutus? 3. What are the contra-indications of veratrum viride? What is its therapeutic value? 4. How would you distinguish between autotoxemia and acute ptomaine poisoning? 5. Describe symptomatic difference between tetanus and strychnin poisoning. 6. Differentiate acute alcoholism, apoplexy and epilepsy. 7. What is arthritis deformans? Give diagnosis and prognosis. 8. Describe and treat hemicrania. 9. What are the differences in the physical signs of initial incompetency and functional systolic murmurs? 10. Define briefly: Aphasia, apoplexy, thermic fever, myalgia fever, parotitis, septicemia, pyemia, pachymeningitis.

MEDICAL JURISPRUDENCE

1. Give signs of death by drowning. 2. What are the duties of a coroner upon receiving notice that a dead person has been found in his jurisdiction? 3. State the method of procedure, in this state, to procure the commitment of a person to the hospital for the insane. 4. In making a microscopic examination of blood-stains, what characteristics would lead you to believe they were produced by human blood? 5. What conditions, from a legal standpoint, would justify the induction of premature delivery?

PHYSIOLOGY

1. What action has the gastric juice on the carbohydrates and fats? 2. Give the composition, reaction, and uses of blood. 3. Describe the red blood-corpuscles and give their best known and most important function. 4. Describe the fetal circulation. 5. Name the erectile tissues of the body, and explain their function. 6. What digestive changes take place in the (*a*) small intestines? (*b*) in the large intestines? 7. Describe the sphygmograph and state its use. 8. How do arteries, veins, and capillaries differ as to function and structure? 9. Define emulsification, and saponification, and give examples of each. 10. What is an (*a*) efferent nerve? (*b*) afferent nerve? Give illustrations of each.

ECLECTIC MATERIA MEDICA, THERAPEUTICS AND PRACTICE

1. Define the terms diaphoretic, narcotic, and poison, and give examples of each. 2. Name several of the best stimulants, and give dose of each. 3. Name some of the best intestinal antiseptics, and doses of same. 4. Give the specific indications for hydrochloric acid, sodium bicarbonate, belladonna, aconite, and dose of each. 5. Diagnose and treat a case of pneumonia. 6. Give differential diagnosis between appendicitis, and gall-stones. 7. What do you know about infantile paralysis—its cause, symptoms and treatment? 8. What are the earliest symptoms of poisoning from the external use of carbolic acid. 9. Give symptoms and treatment of perforation of bowels resulting from typhoid fever. 10. Write a prescription for a good general tonic.

CHEMISTRY

1. Give a test for sugar in urine. 2. Give a common name for the following formula: H_2O_2, C H C_{12}, CH_4O, C_2H_5OH. 3. In what different compounds is sulphur found in nature? 4. What decompositions occur in the preparation of chlorin from rock salt? 5. Give chemical name and formula for lunar caustic.

EYE, EAR, NOSE AND THROAT

1. Diagnose and treat case of iritis. (*b*) Diagnose and treat case of keratitis. 2. Name and describe four errors of refraction and treat each. If lens is prescribed be definite. 3. Give treatment and prognosis of severe burn of eye involving lid and ocular conjuctiva. 4. Give treatment in well marked case of hypopyon. 5. Differentiate between diphtheria and follicular tonsillitis and treat case of follicular tonsillitis. 6. Diagnose and treat a case of hypertrophy of pharyngeal tonsil. 7. Describe the Eustachian tube, giving anatomy and function. 8. Draw diagram illustrating cross section of nose showing turbinated bodies, and treat a case of hypertrophy of inferior turbinate. 9. Give etiology, symptoms and treatment of empyema of frontal sinus. 10. Give three common causes of deafness and treat a given case.

OBSTETRICS

1. How would you treat vomiting of pregnancy? Give etiology. 2. Tell what you know about toxemia of pregnancy. 3. Diagnose and treat a case of placenta prævia, being called after mother is in labor. 4. Make an accurate diagnosis of a vertex presentation. 5. Give three main rules for the treatment of uterine inertia in labor. 6. Give immediate diagnosis and treatment of lacerations of perineum after labor. 7. How and when would you be justified to induce labor? 8. Describe the application of forceps. 9. What is a cystic mole? Give cause for its formation. 10. When would you use chloroform in labor?

ANATOMY, HISTOLOGY AND EMBRYOLOGY

1. Give a histological description of a hepatic lobule. 2. What is the embryonic origin of (*a*) the kidney, (*b*) the lungs, (*c*) the eyeball. 3. Describe the pancreas. 4. Give histological description of pulmonic alveoli. 5. What displacement occurs in a fracture of the femur at the junction of the middle and lower thirds? Why? 6. Describe the ankle joint. 7. Describe the diaphragm. 8. Describe the small intestine. 9. Name the muscles of respiration. Give origin and insertion of any two. 10. Name the abdominal viscera that are (*a*) completely, (*b*) partly, (*c*) without peritoneal investment.

SKIN AND GENITO-URINARY

1. Give symptoms, diagnosis and treatment of a beginning erysipelas of the scalp in an infant one year old. 2. Diagnosis and treatment of erythema multiforme. 3. Diagnosis and treatment of lupus vulgaris. 4. Diagnosis and treatment of perniones. 5. Etiology, diagnosis and treatment of acne vulgaris.

PATHOLOGY

1. What are lymphocytes, polkilocytes, blood-plates? 2. Give the blood changes in myelogenous leukemia. 3. What conditions are induced by (*a*) atrophy and (*b*) hypertrophy of the thyroid? 4. Give the pathology of cancrum oris. 5. Differentiate septic intoxication and bacteremia. 6. What are local infections? 7. Describe the intestinal lesion of typhoid. 8. What is an antitoxin? 9. The pathology of psoas abscess. 10. Define immunity.

DISEASES OF WOMEN

1. Give causes and treatment of pruritus vulvae. 2. Differentiate appendicitis and ovaritis. 3. Etiology, diagnosis and treatment of pyosalpinx. 4. What are the indications for hysterectomy? Describe one operation. 5. Give in detail your treatment for complete rupture of the perineal body with accompanying rectocele and procidentia uteri, in a woman past the menopause.

HOMEOPATHIC THERAPEUTICS AND PRACTICE

1. Outline your treatment of typhoid. 2. Name two of the most frequent complications of scarlet fever, with treatment of either one. 3. Give the indications for two remedies useful in the treatment of chorea. 4. Etiology, diagnosis and treatment of Bell's paralysis. 5. What symptoms would lead you to prescribe arsenicum, rhus toxicodendron, and sulphur in skin diseases. 6. Give symptoms, diagnosis and treatment of broncho-pneumonia. 7. Differentiate digitalis and aconite in heart disease. 8. Indications for two remedies in acute gastritis. 9. How would you treat hypostatic congestion of the lungs. 10. Outline your treatment of infantile convulsions.

HYGIENE AND SANITARY SCIENCE

1. Give in detail the method you would use as health officer in controlling diphtheria epidemic. 2. Is infantile paralysis infectious? If so, give rules for protecting the community. 3. Give incubation period of (*a*) scarlet fever, (*b*) diphtheria, (*c*) variola, (*d*) measles. 4. Give hygiene and general care of the patient to prevent infection of attendants and others in close contact with patient suffering from pulmonary tuberculosis. 5. Give general directions for the care of public schools, and care and inspection of school children.

SURGERY

1. Give diagnosis and treatment of strangulated inguinal hernia. 2. Diagnose and give treatment for cholelithiasis. 3. Diagnose and treat simple fracture of clavicle. 4. Diagnose and treat fracture of femur at the junction of upper and middle thirds. 5. How would you manage case of fecal fistula following appendiceal abscess? 6. Give diagnosis and treatment of hemorrhoids. 7. Given severe crushing injury of leg with shock—give treatment in detail. 8. Give diagnosis of and treatment for postoperative ileus. 9. Give diagnosis and treatment of carbuncle. 10. Give diagnosis and treatment of acute suppurative appendicitis; in case you operate, what incision would you make, and why?

Book Notices

THE PROCEEDINGS OF THE CHARAKA CLUB. Vol. III. Cloth. Price, $3 net. Pp. 174, with illustrations. New York: William Wood & Co., 1910.

In this volume of the "Proceedings of the Charaka Club," of twenty-one papers whose titles are given as having been read since the publication of the second volume, twelve are printed with many rare and interesting illustrations.

Dr. Dana contributes a study of the canticles of old anatomists called "When Apollo Strikes the Lyre," which recalls the days when the scientific world united in the familiar medium of the Latin tongue to celebrate the glories of their contemporaries in verse. When a distinguished professor died or had a festal day his admiring friends and pupils sent him verses from all parts of Europe. Even the works of the great anatomists were celebrated with song. A certain John Antoninus wrote a *carmen* addressed to the ghosts of the gentlemen whose remains had been dissected by Fabricius of Aquapendente, congratulating them on their good fortune in having been dissected by such a master of the art, and assuring them that the repose of their souls had been attended to. Spigelius had a whole *funiculus* of songs contributed to encourage him in his work. Antonio Scarpa, professor in Padua, received the tribute of twenty-five Latin verses written by his pupils and friends. Through three centuries these curious songs were the fashion; even Harvey, Sydenham and Radcliffe in England were celebrated in memorial verses. While the poems do not take high rank as works of art, still they have a great deal higher literary value than the conventional "resolutions" passed by moderns to signify respect for a distinguished departed brother. The custom has passed away, because, as Dr. Dana says, "the learned world has dropped its Latin without having picked up Esperanto;" and, while not maintaining that the formal praise adds anything to the real achievements of the profession, he hints, nevertheless, that physicians might have a better scientific imagination if they were to indulge their sensibilities a little, and not be so technical that they cannot enjoy the esthetic side of life.

Dr. Pearce Bailey makes a delightfully logical diagnosis of what has been known as Flaubert's epilepsy. From the manner in which Flaubert, as well as his friends, describes himself, and from what the novelist records of his peculiar psychology in the romance of "Madame Bovary," Dr. Bailey concludes that the famous fits were not epileptic, but convulsive attacks following emotional crises. Flaubert's physicians left no records of his case. They evidently did not understand it. Some bled him, one threw up his hands and prescribed quinin, another told him to stop smoking, and still another—Hardy, the dermatologist, we understand—called him a hysterical old woman to his face. This is the literary post mortem which Dr. Bailey, more sympathetically, sets forth.

In a paper by Dr. Smith Ely Jelliffe there appears a copy of the first illustration of the fissure of Sylvius, as presented by Franciscus Sylvius in the seventeenth century. So vague were ideas about the work of this remarkable anatomist that the honor of the name of the fissure had often been attributed to Jacobus Sylvius, who lived two centuries earlier. Study of the references makes it possible to trace the picture of a well-descended and highly endowed youth, who studied in Parisian, German and Dutch universities, till at the mature age of 23 he was crowned with laurels, received his cap, ring and book, and was sent forth with a kiss of peace to be one of the most distinguished lecturers and popular physicians of his day. It was said of him that when at 27 he went to Amsterdam the inhabitants acted as though Apollo had descended from Olympus to cure them.

No one reading Dr. Arpad G. Gerster's charming sketch of "Surgical Manners and Customs in the Time of Henry de Mondeville," can fail to appreciate the stages through which surgery has struggled from the middle ages, when it was considered a degrading manual trade, to the present day of luxurious nicety. It is interesting to find this clever old French fourteenth-century bachelor with a big practice grumbling thus: "Sometimes in a whole day I cannot manage to write a single line, being obliged to attend to my lectures, and having in addition to run hither and thither the whole day long to earn my bread, because I must earn everything I need, for myself and my household, by my own work."

De Mondeville's quaint, piquant Latin abounds with caustic humor, and shows deep insight into the devious ways and the cunning of charlatans and tricksters, who "though ignorant, thrive and are magnificently exalted by their practice, while the well-instructed, truth-telling and expert are oppressed, and frequently have to live the life of paupers and mendicants." So little change has there been in human nature, Dr. Gerster says, that "in one of his treatises we find the tricks of the present-day Christian Science beautifully delineated;" and truly, to read the arguments of the monks, concerning the divine nature of health, which de Mondeville satirizes, gives us a feeling that the benighted superstition of the middle ages is flourishing to-day.

To possess this little volume is to loiter at will with the medical great of forgotten ages, or to share the keenly humorous view of the writers of the papers concerning modern situations in medicine.

TEXT-BOOK OF NERVOUS DISEASES FOR PHYSICIANS AND STUDENTS. By Prof. H. Oppenheim of Berlin. Fifth Edition. Authorized Translation by Alexander Bruce, M.D., Physician to the Royal Infirmary, Edinburgh. Volumes I and II. Cloth. Price, 2 guineas. Pp. 1424, with 432 illustrations. Edinburgh: Otto Schulze & Co., 20 S. Frederick St., 1911.

To commend the work of Oppenheim seems like approving a Rembrandt or complimenting a Newton. For years this text-book has been by far the best one in any language. To review it is to recite a catalogue of excellencies. English readers unfamiliar with German are therefore deeply indebted to Dr. Bruce and his Scotch publisher.

The first volume, 602 pages, embraces two parts: a general part (92 pages) and a special part (510 pages). The first, on mode of examination and general symptomatology, contains a wonderful fund of information remarkably well condensed. The second covers diseases of the spinal cord and peripheral nerves, including 147 pages on anatomy and physiology of the cord, localization in the spinal cord (eleven most valuable pages), vessels, etc.

The second volume (819 pages) is devoted to diseases of the brain, the neuroses, diseases of the sympathetic, angioneuroses and conditions of intoxication in which the nervous system is affected. This includes sixty-six pages on the anatomy and physiology of the brain and seventy-two pages on the general symptomatology of brain diseases.

The entire work is a storehouse of thoroughly digested information. The author long has been a contributor to almost every department of the science of neurology and the art of the neurologist. His erudition, keen discernment and practical balance are apparent in the work before us. Every chapter—yes, every page—bears the stamp of the author's keen scrutiny. The field of nervous diseases is covered more completely than by any other treatise on the subject. Affections in which surgical therapy is of importance seem to be particularly well handled. We might instance tumors of the brain and of the cord, dislocation and fracture of the spinal column and the late stages of poliomyelitis.

In many of the better works on diseases of the nervous system the neuroses receive rather scant or, at least, inadequate attention. One might expect this in a German product, but the expectation is not fulfilled in this work. Functional nervous diseases receive consideration satisfactorily full and particularly sane. We especially commend the sections on conditions of anxiety and imperative ideas.

Perhaps it is unnecessary to note that, while the large subjects in neurology receive the most comprehensive treatment, the lesser ones are not neglected. Indeed, often it is these lesser maladies or symptoms which loom large to the patient

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and to the practitioner who is unfamiliar with them and who fails to find them on a hurried hunt through his library. For instance, erythromelalgia, cephalic, hydrophobic, paralytic and bulbar tetanus, facial hemiatrophy, pachyacria, astasia-abasia, akinesia algera, glossodynia and the cerebral softening of gas poisoning might easily elude the practitioner who has no work like this on his shelves. We approve, too, the introduction of a chapter on general paresis.

The author's extensive and catholic knowledge of the literature is also worthy of note. Americans often have just cause of complaint against their European colleagues, because the latter incline to neglect or underestimate the value of American work; but such complaint cannot be lodged against Oppenheim. A few minutes' glance sufficed to find twenty American names. Indeed, scarcely a neurologist of note in this country has failed of mention in this work. Writers of other countries have received like attention, credit and courtesy.

While the book is satisfying in almost every respect, possibly a more extensive and minutely classified index would have made it more easily useful to some readers. The index, however, is unusually good for a German publication.

In conclusion, we have to record our sincere pleasure in a translation which is a real interpretation: neither a labored effort to transplant foreign idioms bodily, nor a fluent composition lacking in precision. We miss alike the routine phraseology of the hack and the absurd inaccuracies of the technically ignorant. When we say that the translation is fully worthy of the original, we consider that we have rendered full measure of commendation. The numerous illustrations are extremely well done; in some instances better than in the original.

A TEXT-BOOK ON DISEASE-PRODUCING MICROORGANISMS. Especially Intended for the Use of Veterinary Students and Practitioners. By Maximilian Herzog, M.D., Professor of Pathology and Bacteriology in the Chicago Veterinary College. Cloth. Price, $4.75 net. Pp. 644, with 238 illustrations. Philadelphia: Lea & Febiger, 1910.

This book, according to the title, treats of disease-producing microorganisms, and is especially intended for the use of veterinary students and practitioners. According to the material discussed, it seems to be intended for veterinarians, physicians, bacteriologists, pathologists, dairy students, etc. This multiplicity of subjects is a serious drawback, in our opinion, and the book would be more useful if the author had confined himself to the subject of veterinary bacteriology. This part is comprehensive and instructive.

Unfortunately, many errors and misstatements have found their way into the text. Some typographical errors and misspelled proper names have been overlooked. The composition is often not quite clear, and occasional contradictions exist. A few of the erroneous statements are these: The author says that invertase splits saccharose into dextrose. The fact is, however, that dextrose and levulose are the splitting products. Two quarts should read "nearly equal to 2,000 c.c." rather than "1,000 c.c."; and *B. diphtheriæ* is stated to produce gas in the presence of glucose—a serious error.

The chapter on the preparation of culture media is not quite up to date. Agar-agar can be filtered readily within a few hours by using folded filters made of good filter-paper; the author, however, says that it takes several days. It is stated that gelatin must be sterilized in the Arnold; but in modern laboratories the autoclave is used with good success. The clarifying process by the use of egg-albumin is entirely omitted. The author uses litmus as indicator for titrating media; phenolphthalein is more accurate and more modern.

The subject of immunity is not clearly elucidated, especially the part dealing with Ehrlich's side-chain theory, and the description of preparing and testing diphtheria antitoxin is not correct. In the chapter on milk the lactic acid bacteria are hopelessly confused and the term is not used in the usually accepted sense. In discussing the thermal deathpoint of tubercle bacilli in milk, the author does not seem to consider the exact work of Theobald Smith, Rosenau, and Russell and Hastings worthy of mention. The objections enumerated against the pasteurization of milk are erroneous without exception, and the author utterly ignores the most up-to-date work on this subject. The statement that Rochester, N. Y., has experienced a deterioration of its milk-supply through pasteurization seems contradictory to an utterance of the health officer of Rochester, Dr. Goler, that there never was an appreciable amount of pasteurized milk in that city.

Animal diseases and the parasites causing them are treated well. In the preface it is stated that there is no text on veterinary bacteriology in the English language. If this book had been devoted to this subject *exclusively*, therefore, it would undoubtedly have been an unqualified success.

THE RACIAL ANATOMY OF THE PHILIPPINE ISLANDERS. Introducing New Methods of Anthropology and Showing Their Application to the Filipinos with a Classification of Human Ears and a Scheme for the Heredity of Anatomical Characters in Man. By Robert Bennett Bean, M.D., Associate Professor of Anatomy, Tulane University of Louisiana, New Orleans. Cloth. Price, $2 net. Pp. 236, with 26 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

This book is a compilation, with modifications, of a series of articles published in the *Philippine Journal of Science* on the racial anatomy of the different peoples of the Philippine Islands. The author has studied the living form rather than the skeleton as a method of segregating the different types, of which he defines seven, into which all the peoples of the island may be classified anthropologically. The three principal types are the Primitive, which represents most nearly the original or the oriental type; the Iberian, which conforms to a type representing the admixture with Spanish blood, and the Australoid, representing the primary negroid element. The others are not so important, and represent various blends and mixtures of the three principal types. The studies of Filipinos from all parts of the Archipelago show that probably a third of the population is Iberian, owing to Spanish interbreeding over a period of several hundred years. These are more susceptible to tuberculosis, which is quite prevalent among them, whereas the original Filipinos, or the Primitive type, are comparatively free from this disease. The author believes that the Iberian will ultimately disappear, leaving new combinations and blends unlike the original types. The Chinese and Japanese have left their impress on the types, as have also the Indians, whom the author says, no doubt swarmed over the Philippines for many more centuries than did the Spanish. In pursuing his studies and establishing the types the author has made hundreds of observations and measurements of Filipinos, both those in the schools and the natives in the country. He has laid especial emphasis on shape of head, character of nose, teeth and ear, comparative length of limb, character of skin, hair, etc., and position of the umbilicus, which latter the author presents as a point of significance in anthropologic study. The book contains many photographs of Filipino types and the author draws many interesting conclusions as to the place of origin and distribution of the different races of mankind. The work is an interesting contribution to anthropology.

THE AMERICAN YEAR-BOOK. A Record of Events and Progress, 1910. Edited by S. N. D. North, LL.D., Under Direction of a Supervisory Board Representing National Learned Societies. Cloth. Pp. 867. New York: D. Appleton & Co., 1911.

This volume is the first of a projected series of annual publications intended to fill a place distinct from others already in the field. Statistical matter is not given so abundantly, but the attempt is made to give something like a survey of general progress in the lines of "Comparative Statistics," "History and Law," "Government and Administration," "Functions of Government," "Economic and Social Questions," "Industries and Occupations," "Science and Engineering," "The Humanities," and "Current Record." Arrangement is topical, with cross-references and an analytical index. The work seems to be well done in the main, much of the information being presented in a more interesting and available form than is usual in such works of reference.

So far as preliminary examination shows, the only decidedly disappointing feature is the subdivision of "Literature and Language" under "The Humanities." Considering the fact that almost no attempt is made to give the most notable original works of the year in any language, or in any depart-

ment of pure literature, the general reader will probably grudge the space given to language text-books, and wonder that it has been thought necessary to mention translations into English of foreign works possessing neither timely interest nor transcendent importance.

In the section on medicine and hygiene, covering twenty pages, Alexander Lambert briefly reviews the progress in medicine, surgery, public health, medical education, nursing, vital statistics, etc., and gives a list of the important medical books published during the year. Most attention is given to tuberculosis, poliomyelitis and others of the infectious diseases, the important discoveries and developments in research and the provisions made by endowment for the promotion of these. Among the many things worthy of mention the author, with judgment and discrimination, has selected those most important and of largest bearing, and has editorially commented on them in an interesting way. The article fairly reflects the status of those subjects at the end of the year.

THE DISEASES OF CHINA, INCLUDING FORMOSA AND KOREA. By W. Hamilton Jefferys, M.D., Univ. of Pennsylvania, Medical Missionary in China, and James L. Maxwell, M.D., London, Medical Missionary in Formosa. Cloth. Price, $6 net. Pp. 716, with 360 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This book will be of value to medical missionaries or practitioners wishing to take up the practice of medicine in China. It does not purport to be a complete text-book on the diseases of the East, but reviews and compares interestingly the prevalence of many of the world-wide epidemic diseases, as plague, cholera, malaria, tuberculosis, syphilis and gonorrhea. The differences in the requirements of practice in China as compared with Western countries are pointed out, and the authors draw from their long experience in their presentation of the subjects. The greater prevalence of tuberculosis is noted, the opium habit is interestingly discussed, hospitals throughout China and Formosa, their equipment, and their work, are pictured and described, and the needs of the country in a medical way are set forth. The affections peculiar to the country, and unusual forms of more or less familiar diseases or lesions, as of elephantiasis, various tumors, syphilis and skin affections, and also of gynecologic and other surgical affections, due largely to neglect of proper treatment, are described. Metazoan and protozoan diseases are given considerable space.

Perhaps the most valuable suggestion in the book is as to the immense field offered for research and comparison of diseases occurring in new environment and among peoples with different habits, diet, etc. The experience of the authors as described in this book will undoubtedly be drawn on in future studies of many diseases.

AN ANATOMICAL AND SURGICAL STUDY OF FRACTURES OF THE LOWER END OF THE HUMERUS. By Astley Paston Cooper Ashhurst, M.D., Prosector of Applied Anatomy in the University of Pennsylvania. The Samuel D. Gross Prize Essay of the Philadelphia Academy of Surgery, 1910. Cloth. Price, $2.75 net. Pp. 163, with 150 illustrations. Philadelphia: Lea & Febiger, 1910.

The subject-matter of this little volume is divided into two parts; the first deals with the anatomy, mechanism, complication and treatment of these fractures, and the second contains the clinical histories in detail of the fifty-six cases which form the basis of this study. The first part shows that the author has done a great deal of original work and has devoted much time and study to the elucidation of the pathogenesis of these fractures.

The method of making a proper examination of the elbow for diagnostic purposes and the method of interpreting skiagraphs of this region are very lucidly explained. The author earnestly advocates the hyperflexed position in the treatment of most of the varieties of fracture involving the lower end of the humerus, and his arguments in favor of this position are quite convincing, provided one remembers the most important rule in this connection, which is not to maintain the arm in any position without change sufficiently long to permit of fixation of the point in that position.

Fractures of the elbow are so common in children and the results following are so frequently not what they should be, that a careful study of this little volume is earnestly recommended to all who treat these conditions.

LESSONS ON THE EYE. For the Use of Undergraduate Students. By Frank L. Henderson, M.D., ex-President of the St. Louis Medical Society (1905). Fourth Edition. Cloth. Price, $1.50 net. Pp. 238, with 138 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This little book, after briefly taking up the anatomy of the eye and the surrounding structures explains in an elementary way the physics of light, of prisms, lenses, etc.; it explains refraction and the various errors of refraction, describes disorders of the ocular movements, and discusses the diseases of the different structures of the eye, and their treatment. The author states that the book is intended as a substitute for the students' class-room notes, and it serves that purpose very well. The book is well illustrated, and should prove an aid to the medical student.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL, MAYO CLINIC, ROCHESTER, MINN., 1905-1909. Cloth. Price, $5.50 net. Pp. 668, with 228 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This collection of the papers of Drs. William J. and Charles H. Mayo and the other members of the staff of St. Mary's Hospital, previously published elsewhere, brings into compact form in one volume a mass of material on surgical subjects, and investigations of the pathology of surgical diseases treated in that hospital from 1905 to 1909. It is indexed as to authors and subjects, and affords a convenient source of reference to those wishing to look up what has been done at St. Mary's.

Medicolegal

When Expert Witnesses are Entitled to Special Compensation

The Supreme Judicial Court of Maine holds, in the consolidated cases of Gordon, O'Neil and Twitchel vs. Conley (78 Atl. R. 365), that, under certain circumstances, expert witnesses are entitled to reasonably special compensation. Here the plaintiffs were employed by the defendant or her attorneys to make an examination of her physical condition for the purpose of enabling them to qualify as medical expert witnesses for her in a personal injury case she had against a railway company. They were not summoned, but appeared voluntarily at the request of counsel, without any agreement as to their compensation, and by special request remained in court three days to listen to the experts on the other side, and testify in rebuttal, if necessary. The defendant contended that they were entitled to only the statutory compensation of ordinary witnesses.

It will be observed, the court says, that the question raised was not whether an expert witness can be summoned into court in the regular way, and be required to give in evidence all the knowledge he may have acquired as an expert on a particular subject under investigation, for the regular witness fee, but whether, having been employed by a party to give special attention to the investigation of a matter out of court, and then to appear in court, not only to testify as an expert witness, but to remain in court for a specific length of time with loss of regular occupation, not by order of the court, but by request of the party employing, a witness is entitled to receive reasonable compensation beyond the regular witness fee for such services. If a party saw fit to summon an expert witness to testify in court without any knowledge as to what he might say, whether the witness would be required for the usual fee to give all the expert knowledge he might have on the subject under investigation did not arise here. That was not the case before the court.

A witness under subpena after testifying for an hour or half an hour might be excused by the court and enabled to pursue his ordinary occupation, instead of losing three days. He is under no contractual obligation whatever to the party calling him. He cannot even be unwillingly interviewed before testifying. He takes the stand, testifies, and leaves it. That is all he is required by law to do. The court, of course, could require him to remain in attendance, but it is an unusual case in which an expert witness, capable of earning perhaps $100 a day, would be required to remain at $1.50 per day for the

benefit of private interests. Hence it appears that a witness summoned into court, and for non-appearance subject to contempt, stands in an entirely different relation to the court and the parties from the witness who appears in court without summons, but on a special agreement not only to prepare and testify, but to remain in court for the special benefit of the party calling him. Such a witness performs services outside the statutory requirement, and is entitled to whatever his services are reasonably worth above the legal fee due ordinary witnesses. The plaintiffs rendered bills for $50 per day, but the jury allowed them $37.50 per day, which, in view of their reputation and skill, is deemed entirely reasonable.

Requisites for Holding Brothers and Others for Bills—Inadmissible Evidence

The Supreme Court of Rhode Island holds, in Churchill vs. Hebden (78 Atl. R. 337), that, the evidence failing to prove either an express or implied promise of the defendant to pay for an operation for appendicitis performed on his brother, a verdict was properly directed in the defendant's favor. It appeared that the patient was a man 29 or 30 years of age, who lived with wife and children in one city, while his brother, the defendant, was a resident of another city. The family physician testified that he telephoned to the surgeon who performed the operation, and made arrangements for it, but did not remember that any thing was said about the fees or who should pay them. The patient testified to having objected to having the operation performed and having asked the family physician about the cost, stating that he was the one who would have the bill to pay, and being told not to mind about the bill, it being a little matter that could be fixed up afterwards. The surgeon who performed the operation died before the trial of the case, which was revived in the name of his executrix, so that his testimony was lacking. There was, however, no denial that the operation was performed, or that the charge for it was $500, but only as to this defendant's ability—a denial that he had agreed to be responsible for the payment for the operation.

With the sole question thus being whether the defendant had employed the surgeon, or had agreed to pay for his services rendered to his brother, a question for the jury to pass on, the court holds that there was no error in refusing to admit in evidence the surgeon's books of account. The burden of proof was on the plaintiff to satisfy the jury by a fair preponderance of the evidence of the employment of the surgeon by the defendant. To show the entry on the books would merely show the deduction reached by the surgeon through his sources of information as to the circumstances surrounding the transaction. Those circumstances were to be submitted to the jury, who were entitled to consider them without knowledge of the inferences drawn therefrom by either party to the transaction. The parties necessarily took an interested view of the situation. The jury should consider the same without prejudice.

Nor was there error in excluding evidence as to other contracts or payments made by the defendant, as, for example, who paid the nurse for her services, or whether the defendant engaged or paid the hospital wherein the operation was performed.

There being no testimony of an express promise to pay, the jury were correctly instructed that, if the plaintiff was entitled to recover in this case, it must be by virtue of certain circumstances by which the law would imply a promise on his part to pay for the services. For instance, if a husband calls a physician to attend his wife, being under obligation to take care of his wife, the law would imply a promise to pay for those services, even though he made no promise. If a father calls a physician to attend his minor son, he being under obligation to take care of that minor son, the law would imply a promise to pay for those services. But where a mere stranger —and brothers are strangers in that respect—where a mere stranger calls on a physician to attend a third person, whom the one calling the physician is under no obligation to take care of, then the law will not imply any promise to pay for the services rendered to the third person

Powers of Courts on Appeals from Board Decisions Refusing Licenses

The Supreme Court of Washington, In re Littlefield (112 Pac. R. 234), determines the powers, under the 1909 statutes of that state, of the courts on appeals from decisions of the State Board of Medical Examiners refusing licenses to practice medicine and surgery, and affirms a judgment directing the board to issue the license applied for in that case.

The record, the court says, showed that the license was refused by the board principally for the reason that the applicant did not obtain a rating equal to 60 per cent. on the subjects of histology, pathology and general diagnosis, which he was required to obtain under the statute before a license could issue to him. The first contention on the part of the board was that the court had no jurisdiction to hear this case; that it could not administer the provisions of the medical act as applied to appeals from orders of the board denying a license after examination, because, it was asserted, it is familiar law that, if the court cannot administer the law on a subject brought before it by virtue of the appellate statute, the court has no jurisdiction, to sustain which announcement of the law many cases were cited. But this was assuming the very question at issue. It seems to the Supreme Court that under the statute the court has the right to administer the provisions of the medical act, for the statute specially provides for an appeal from the decisions of the board. Section 13 of the act provides that, "In any case of the refusal or revocation of a license by the said board under the provisions of this act, the applicant whose application shall be so refused, and the licentiate whose license shall be so revoked by said board, shall have the right to appeal from the decision so refusing or revoking such license within thirty days after the filing of such decision * * * to the superior court," etc. And provision is made for an appeal from the decision of the Superior Court to the Supreme Court.

It was contended that, if this statute was to be given force at all, it must be construed to the effect that the appeal is not from the facts in the case or the merits of the case, so far as the examination is concerned, but only for the purpose of having determined any questions of law arising on the examination or in connection with the same. But the statute is a general one, and confers the general right without any limitation of this kind. So far as the statute itself is concerned, it does not remove from the operation of the appeal questions of fact, any more than it does questions of law.

But it was insisted that it must be construed with reference to the asserted fact that it would be a travesty for the superior court to undertake to pass on the qualifications of applicants to practice medicine; that it would resolve itself simply into the hearing of expert testimony on questions brought before the court. Difficulties of this kind are presented in the trials of many cases. A common instance is where a defense is based on the alleged insanity of a defendant in a criminal action. The testimony of alienists and other scientists is the controlling testimony in the case. The legislature evidently was not willing to leave the exclusive and final determination of this question to the discretion of the examining board, but evidently thought that justice and public policy demanded that there should be a review of the action of this tribunal.

It is true, there are some inconsistencies in the act; one of which is the fact mentioned by the board, that there may be an oral examination which it would not be possible to transmit in the record. But that it was intended by the legislature that the evidence generally should be transmitted to the Superior Court is evident from the provisions of the statute, for the law requires that the secretary shall within ten days after the service of such notice of appeal, transmit to the clerk of the Superior Court to which such appeal is taken, a certified copy, under the seal of said board, of the decision of said board, and the grounds thereof in the case of the refusal of the license; that the clerk of the court shall docket such appeal cases, and that they shall stand for trial in all respects as ordinary civil actions, and like proceedings be

had thereon. It also provides that on said appeals said causes shall be tried *de novo* (anew), which excludes the idea advanced that only questions of law shall be passed on by the Superior Court. It provides that the examination papers shall form a part of the records of the board, and shall be kept on file by the secretary for a period of one year after each examination. All these and other provisions of the statute tend to show that the preservation of such records is in the interest of appeal.

Again, it was contended that, if the statute is to be literally construed, the proper procedure was not followed in this case, for the court only passed on the question in the main as to whether the applicant had been properly rated in his examination on the subjects of histology, pathology and general diagnosis, while the other subjects on which he was examined were not examined by the Superior Court; that a trial *de novo* is a trial anew, and that a trial anew means a trial of all questions that were involved in the case below. But it seems to the Supreme Court that this is not a broad view of this statute. Undoubtedly a trial *de novo* does mean, and is generally understood to mean, a trial anew; but it means anew, of course, only as to the questions in issue. In this case, so far as the applicant was concerned, he was satisfied with the rating he received on the other subjects of examination, and there was no objection made to them by the board, so that they were really not in issue in the case, and the case was tried *de novo* (anew) so far as the issues were concerned.

Finding no reversible error, the judgment directing the issuance of a license is affirmed.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Texas State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-Third Semi-Annual Meeting, held at St. Joseph Mo., March 16-17, 1911

The President, DR. DONALD MACRAE, Council Bluffs, Ia., in the Chair

The Present Status of Salvarsan

DR. ALFRED SCHALEK, Omaha: It is premature and risky to let a patient with syphilis go with one or only a few treatments with salvarsan. Syphilis is still a serious disease which requires prolonged and thorough attention. Salvarsan has not yet been proved to be greatly superior to mercury, and, while it acts more rapidly on small lesions and may be of benefit in cases in which mercury is powerless, only time can tell whether or not the results will be more permanent.

DISCUSSION

DR. C. A. GOOD, St. Joseph, Mo.: Salvarsan quickly causes disappearance of the primary chancre and mucous patches, but it is doubtful whether or not it will drive the spirochetes completely from the body. Two or three interesting observations have been made of children with congenital syphilis who were given salvarsan and later died, and it was found that the organisms had practically disappeared from all the internal organs where usually they are found in abundance, with the exception of one instance, in which they were found in the lungs.

DR. T. M. HALL, St. Joseph, Mo.: There has been a tendency to promise a syphilitic that one injection of salvarsan will practically cure him. This is unfortunate, because, if later the disease is not annihilated by one injection, the man is imbued with a false idea as to his true condition.

DR. F. S. MASON, New York City: While salvarsan may not be so good as mercury, when it is used the acute symptoms are relieved quickly. A woman who had the acute lesions of syphilis and was attending to her business received injections of salvarsan and within a week practically all the lesions disappeared, so that she could not infect anyone else.

Difficulties Encountered in Late Operations for Intestinal Obstruction

DR. HERMAN E. PEARSE, Kansas City, Mo.: By the following procedures patients with late cases of intestinal obstruction can be saved: 1. Empty the bowel at first operation and allow time to recover from toxemia before resection is practiced unless gangrene should forbid (ten-minute operation). 2. Do this by employing the long intestinal tube and emptying the distended bowel as the first step after finding the obstruction; close the wound after providing escape. 3. By the use of the glass tube of Paul or the rubber tubes with depressed external grooves, as advised by Marro, the toxic fecal matter may be conveyed beyond the wound, thus securing primary union and safety from abscess. 4. The bowel edges may be brought out of the incision beyond the skin and the open treatment by a nurse and water washing may be substituted for the closed method of filthy gauze and pads of cotton. 5. A second and even third operation may be done to complete the work when the patient has recovered from the effects of the obstruction and vomiting.

DISCUSSION

DR. JOHN E. SUMMERS, Omaha: Sometimes in cases of strangulated hernia, when gangrene is present, one can establish an artificial anus by cutting into the gut and allowing this opening to remain until the circulation is reestablished; then an operation may be done later. If drainage is carried out, it is wise to wash out the gut through a tube.

DR. C. LESTER HALL, Kansas City, Mo.: I differ with Dr. Pearse in regard to making the incision. We can open the abdomen more widely and freely and reach parts of the abdominal cavity better through a median incision, and we have less trouble through that incision in the after-treatment, and we get better union there than in any other part of the abdominal wall.

DR. O. BEVERLY CAMPBELL, St. Joseph, Mo.: I agree with Dr. Pearse that a good place to make the incision is about the border of the right rectus, because there is more trouble in the right side in intestinal obstruction than anywhere else, and the fact that one wants to drain in the median line; therefore, I would favor incision at this place in most cases.

DR. S. H. SMITH, Omaha: In a case of intestinal obstruction in a woman, the obstruction was caused by three constricting bands around the sigmoid flexure. These bands were cut. There were adhesions around the cecum which were broken up. Three days after the operation, the patient had natural

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bowel movements without the use of purgatives, and she has not had to take any purgatives since.

DR. F. H. CLARK, El Reno, Okla.: Shock in abdominal operations comes more from rough handling of the intestines than from any other one thing that enters into surgical work in the class of cases under discussion. A prominent surgeon told me not long ago that he attributed his remarkable success to two things: first, he had acquired a technic which enabled him to get in and out of the abdomen in a very short time; and second, he had learned to handle the intestines just as gently as it was possible to do it.

DR. JOHN P. LORD, Omaha: When we have a gangrenous gut to deal with, I believe that it should be excised, then we have an open bowel and can drain. We should not pack it with gauze and cover it with rubber tissue. The Murphy button tempts one to make an immediate anastomosis, which would be the means of causing the patient to suffer from the toxemia that kills so many of these patients who have so-called secondary shock. I do not believe in secondary shock unless there is secondary hemorrhage. The tube is a good thing, but it tempts us to do too much in the very cases that require drainage without too much manipulation.

DR. S. G. ZINK, Leavenworth, Kan.: I have had three cases of fecal impaction, and I have found that by using a 25 per cent. solution of peroxid of hydrogen, and putting the patient in the knee-chest or in the exaggerated Sims position, with the head low down, one or two injections of 8 ounces, followed by irrigation, would break up these fecal masses.

DR. C. H. WALLACE, St. Joseph, Mo.: For the average surgeon, who sees these cases only occasionally, I am satisfied that the simpler method of drainage by the introduction of a large tube will result in a greater saving of life than more extensive work.

DR. JACOB GEIGER, St. Joseph, Mo.: Early and correct diagnosis is most important. It is easy for us to say what to do, but every case is a law unto itself, and when we have a case of acute intestinal obstruction and open the abdomen and feel the pathology, then we have to use our brains to determine what is best to do.

DR. V. L. TREYNOR, Council Bluffs, Iowa: I believe that if efforts were directed toward a more certain and early diagnosis it would simplify the treatment of these cases very materially. I do not like to hear the internists criticized for so-called neglect when the surgeon himself is sometimes incapable of making a diagnosis when he is called early.

DR. C. C. CONOVER, Kansas City, Mo.: Modern methods of diagnosis have improved so wonderfully in the last four or five years that most internists can make a diagnosis of intestinal obstruction, and need not wait and call in a surgeon to tell them what is the matter with the patient.

DR. H. M. CLARK, Platte City, Neb.: We as country practitioners call in surgeons and they operate on patients with intestinal obstruction and lose 40 or 50 per cent. of them; we can do nearly as well ourselves.

The Roentgen Ray in Postoperative Cases

DR. R. D. MASON, Omaha, showed the value of the *x*-ray in cases in which operation has been done, and advised its use in all postoperative cases in which malignancy is suspected. He pointed out the fallacy of waiting until a return of the disease before beginning the use of the rays.

DISCUSSION

DR. ALFRED SCHALEK, Omaha: Every cancer operated on should have postoperative *x*-ray treatment.

DR. JOHN P. LORD, Omaha: I have an abiding faith in the therapeutic value of the *x*-ray in the treatment of cancer in selected cases in which it can be reasonably expected to do some good, and practically every case should receive the benefit of this postoperative treatment.

The Rôle of Tuberculin in the Diagnosis of Pulmonary Tuberculosis

DR. LOGAN CLENDENING, Kansas City, Mo., reviewed the methods of early diagnosis of pulmonary tuberculosis and said: 1. In infants and children the v. Pirquet test is of great value and positive, the younger the child the higher its value; it is somewhat less valuable if negative. 2. In adults there is no method of using tuberculin for diagnostic purposes that has uniform value in all cases; the subcutaneous method is probably the best.

Colica Mucosa

DR. J. M. BELL, St. Joseph, Mo.: My experience with this disease leads me to believe the enteroptotic habit, plus autointoxication and constipation, is the foundation on which the disease is based; the neurosis being secondary. When the digestive tract is restored, a normal state of equilibrium is obtained.

Local Anesthesia with Quinin and Urea Hydrochlorid

DR. C. M. NICHOLSON, St. Louis: I am convinced by experience with thirty-two cases that quinin and urea hydrochlorid is destined to occupy a prominent position as a local anesthetic. The greater length of time required after the injection of the quinin and urea hydrochlorid before the anesthetic effect is fully manifest is its principal disadvantage.

DISCUSSION

DR. JOHN P. LORD, Omaha: I have given this anesthetic in as many cases as Dr. Nicholson has mentioned and can unqualifiedly endorse it. This winter I used it in resecting the ribs in cases of empyema, and it worked admirably.

DR. J. P. STANDLEY, Bedford, Iowa: I have repeatedly operated on hemorrhoids with this anesthetic with satisfactory results.

DR. J. H. DILLON, Auburn, Neb.: I wish to speak highly of this anesthetic, although I have only used it in two or three cases. I have also seen satisfactory results with it in the hands of others.

DR. E. H. THRAILKILL, Kansas City, Mo.: I have used quinin and urea hydrochlorid with good results, but I prefer stronger solutions than are used by some practitioners. After operations on the rectum I have used this anesthetic to prevent postoperative pain.

DR. R. C. DORR, Batesville, Ark.: I do not believe that there is any major surgical work done with a local anesthetic without pain.

DR. A. J. MCKINNON, Lincoln, Neb.: I operated on a man for hemorrhoids, using this anesthetic, and after the operation the patient rode home in a buggy.

Suggestions for the Application of Lactic Ferments in Genito-Urinary Work

DR. F. S. MASON, New York City: These ferments are useful in treatment of diseases or infections of the gastro-intestinal tract, since they inhibit the growth of the pathogenic organisms. Drs. Holbrook Curtis and Otto Glogau of New York have used suspensions of lactic ferments in bouillon successfully in treatment of suppurating discharges from sinuses and nasal passages, as well as from the ear.

Peritonization in Abdominal and, More Particularly, Pelvic Surgery

DR. JOHN E. SUMMERS, Omaha: By peritonization or peritoneoplasty is meant the covering over by peritoneum of all tears, lacerations and losses of substance of the peritoneum due to surgical procedure. In some cases the peritoneum may be separated from the abdominal wall, commencing at the lower angle of the incision toward the space of Retzius, or at the sides, a great part of the bladder being likewise freed. These flaps are made large enough to cover over the posterior wall of the pelvis. In other cases, the technic consists in transporting the sigmoid flexure across the pelvis and suturing it in such a way that all raw surfaces are covered over. The sigmoid is only fixed below and is nearly always sufficiently mobile to be carried across the pelvis to the right side as far as the cecum. When the uterus is preserved, the sigmoid is sutured to the lateral walls of the excavation and across the fundus of the uterus. When the uterus is sacrificed, the sigmoid is sutured to the lateral walls of the excavation and to the bladder. Drainage should be made through the vagina. Amann emphasizes the fact that this technic is particularly

advantageous when septic pus or genital abscesses communicate with the intestine—for example, a pyosalpinx, or a suppurating tumor of the ovary, opening into the large bowel; and also when genital abscess coexists with perforative appendicitis. The intestinal sutures are situated under the protection of the cavity drained and are extraperitoneal. Two vital principles are involved in peritoneal autoplastic surgery: first, the more vital principle, the prevention of infection; second, the prevention of postoperative intestinal obstruction.

Care of the Hypertrophied Prostate

DR. F. H. CLARK, El Reno, Okla.: The responsibility for early diagnosis and advice must, of necessity, rest with the family physician. While this condition usually comes on with advanced age, it may occur even in childhood. Operative procedure is the only treatment that offers hope for permanent cure and a comfortable life after operation. The operation which presents the lowest mortality is through the lower perineal route. We should never forget that 10 per cent. of these hypertrophied prostates become malignant if allowed to go on, and that our only hope of avoiding that is an early operation. We must not forget that we should continue to use sounds on these patients following operation until we are certain that there will be no contraction of the scar formed that may serve as an impediment to the free flow of urine.

Other Papers Read

The following papers were also read: "The Decay of Nations," by Dr. H. Stern, New York; "Should Venereal Infections be Classed and Reported as Contagious Diseases?" by Dr. T. M. Paul, St. Joseph, Mo.; "Extreme Edema of the Cecum and Ascending Colon Following Gangrenous Appendicitis," by Dr. L. J. Dandurant, St. Joseph, Mo.; "An Unusual Case of Dilated Capillaries," by Dr. W. Frick, Kansas City, Mo.; "Treatment of Tuberculosis," by Dr. G. N. Ryan, Des Moines, Iowa; "Acute Anterior Poliomyelitis," by Dr. L. A. Skoog, Kansas City, Mo.

CLEVELAND ACADEMY OF MEDICINE

Regular Meeting, held March 17, 1911

DR. WALTER B. LAFFER in the Chair

Gynecologic Problems of Interest to the General Physician

DR. BARTON COOKE HIRST, Philadelphia: Too many lives are lost in this aseptic era from puerperal infection. A well-equipped obstetric bag with sterile contents including gloves, the shaving of patients, cleansing of the vulva before examination and scrupulous cleanliness in the after-management would unquestionably reduce the morbidity and mortality of childbearing. Moreover, physicians should insist on more stringent regulation and instruction of midwives. I wish to emphasize two points in the treatment of puerperal infection—the value of antistreptococcus serum and the possibilities of the operative treatment of pelvic infections. As to lacerations of the birth canal, I believe that only by immediate repair, or at least repair within five days after delivery, can all the injuries be successfully repaired and their consequences avoided.

About one-fifth of all women who consult physicians because of diseases peculiar to their sex, are suffering from retrodisplacements. Every woman after confinement should be subjected to two examinations—one at the end of three weeks when she begins to walk, and the other at the end of the puerperium, six weeks after delivery. If displacement is discovered after the first examination it can be cured, in a certain percentage of the cases, by use of the knee-chest position twice a day. If it persists, at the end of six weeks, a pessary with Swedish exercises and massage will effect a cure in an additional number of the cases. If in spite of this treatment the malposition still persists, early operation should be advised. I must still harp on the sinister significance of genital hemorrhage, especially in the middle-aged, in relation to carcinoma. It cannot be too strongly emphasized.

In the United States 2,500 women die every year from eclampsia—about six times as many as should legitimately do so, if the condition were properly treated. We should watch more carefully for pre-eclamptic symptoms by urinary and blood-pressure examinations—especially the latter as the blood-pressure is invariably raised. It is easier to prevent eclampsia than to cure it. The patient should be placed in a hospital, if possible, and energetic diaphoresis employed from the start. It is a fallacy that the first step in treatment is evacuation of the uterus.

As to moderate-sized fibromyomata, if they are not causing pressure symptoms or excessive hemorrhage, there is always ample time, years in fact, to observe the rate of growth, to watch for untoward symptoms, and to decide whether the neoplasm is a serious detriment to the patient or not. This is, I believe, the right course to follow when practicable. In ectopic gestation, I believe in immediate operation, as I have too vivid a recollection of patients who have bled to death before I could reach them. It is the height of folly to wait for a reaction that may never come. In placentia prævia there are certain rules which might be remembered with advantage. A vaginal tampon, if big enough, will temporarily check the hemorrhage until other measures can be decided on. Version followed by a slow extraction of the fetus is applicable in a majority of the cases. In some cases of sterility, resulting from an infantile uterus, I have obtained excellent results by local electrical stimulation. This is a therapeutic measure that is not so generally appreciated as it might be.

DISCUSSION

DR. HUNTER ROBB: Only by the best aseptic technic can infections, following labor and abortion, be prevented. Every physician should have good surgical training. In my experience, about one-half of these infections are gonorrheal in origin. In perineal tears, if the patient's condition is good, I advise immediate repair. I have never seen a patient bleed to death in ectopic pregnancy; though I have seen many "operated to death." I do not believe in immediate operation. Some patients will stand it, but the majority are in deep shock and are too weak to stand an immediate operation. In the past year, I have had eight more of these cases and the patients all recovered, being operated on in from two or three days to a week or so. If the patients are properly stimulated following rupture of the pregnancy they will not bleed to death. In my experience, a majority of cases of sterility are due to gonorrheal inflammation of the tubes.

DR. W. H. HUMISTON: Retroflexion of the uterus is the most common complication following labor. The majority of lacerations of the cervix heal of themselves, but if there is a mild degree of sepsis present healing is not so rapid and there is a resultant subinvolution of the uterus, with subsequent retrodisplacement. I treat such patients by curettage and repair of the cervix, getting the uterus into position in the knee-chest position, and applying a properly fitting pessary. The patient is kept in bed and is not allowed to sleep on the back. After getting up, the pessary is removed in from eight to ten weeks. In cases of rupture in ectopic pregnancy I wait no longer than it takes me to get the patient into the operating room, and for me to get into the abdomen. By such treatment I have had no fatalities. About 90 per cent. of my operative cases are gonorrheal in origin. In acute cases I believe in radical measures. I put the patient to bed, shave the vulva, wash and cleanse out the vagina with soap and bichlorid of mercury solution. Then I carefully cleanse the cervix with alcohol and swab the cervix and canal with compound tincture of iodin. The vagina is then dried and powdered with boric acid, seven parts to one part of iodoform. After this the uterus is packed with gauze. After four such treatments, in eight days I begin the use of douches of permanganate of zinc. Internally the patient gets a mild diet and hexamethylenamin.

DR. W. H. WEIR: How does Dr. Hirst use antistreptococcus serum? Does he ever use it prophylactically?

DR. J. E. TUCKERMAN: Some cases of retrodisplacement are due to undue anxiety on the part of the physician to keep the patient on her back, following labor.

DR. LILLIAN TOWNSLEE: I used the electric current in one case of infantile uterus. After its use for six months the organ had increased greatly in size and the patient became

pregnant, later giving birth to a normal child. I do not favor immediate operation for ruptured extrauterine pregnancy.

DR. B. C. HIRST: I have seen at least four or five patients who have bled to death following delay in operation for ruptured ectopic pregnancy. At any rate, the patient should be in a hospital where she can be carefully watched. In using serum in the treatment of septicemia I use 80 c.c. at a dose; this is four times the dose recommended by the makers. This dose should be repeated four times a day and may be used for two or three days. Possibly better results are achieved with the use of fresh antistreptococcus serum than with older samples. I agree partly with Dr. Tuckerman that patients may be kept too long in bed; however, I do this with a note of warning, for there is danger of later prolapse if the patient gets up too soon.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

April 1

1 *Vagaries of the Pneumococcus. W. H. Thomson, New York.
2 The High Death-Rate from Diphtheria in the United States. E. C. Hill, U. S. Army.
3 *What Is Rheumatism? H. C. de V. Cornwell, New York.
4 Arthritis Deformans and Its Relation to Intestinal Putrefaction. E. E. Cornwall, Brooklyn, N. Y.
5 The Hospital and the Young Physician. W. E. Darnall, Atlantic City, N. J.
6 *Source of Error in the Diazo Reaction. S. Levinson, Brooklyn, N. Y.
7 A Case of Blood Extravasation Into the Sclera from Indirect Violence. F. Griffith, New York.
8 Short Talks with My Students and Others: Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

1. **Vagaries of the Pneumococcus.**—Thompson has become convinced that creosote carbonate, in 15-grain doses, given every two or three hours, in a specially prepared emulsion which is so well borne by the stomach that he has known it to stay down when everything else was rejected, changes the course of the fever so that in 70 per cent. of the cases it ends by lysis instead of by crisis. The extreme susceptibility of the pneumococcus to the faintest trace of phenol may allow of this preparation being regarded as a true blood germicide. Thomson has seen no injurious effect produced by it even when its absorption causes the urine to become dark. The formula for this emulsion is:

℞	gm.	or c.c.	
Acaciæ	18		ʒiv
Aquæ	18	or	ʒivss
f. mucilaginem tunc adde			
Creosoti carbonatis	21	33	ʒv, mxx
Misce et adde:			
Glycerini	30		ʒi
Aquæ menthæ piperitæ ad	240		ʒviii

Sig. One tablespoonful (15 grains of creosote carbonate) every 2 or 3 hours.

This is also his favorite prescription for pulmonary phthisis, not that he expects it to be operative against the tubercle bacilli, but against the pyogenic microorganisms whose alliance with the tubercle bacilli in the lungs is so disastrous.

3. **Rheumatism.**—In speaking of rheumatism, Cornwell says we should never employ the term in the description of a symptom, but should limit its application to the conception of an acute, constitutional, self-limited infectious process, with a practically incontestable bacterial etiology, a proneness to find focal expression in the joints (arthritic type), or the endocardium (endocardial type), and to a less extent in other tissues, and a tendency to react specifically and characteristically to medication by the salicylates.

6. **Error in the Diazo Reaction.**—When a urine shows the diazo reaction, Levison says it becomes necessary, in order to avoid mistakes, to ascertain whether the reaction is not due to phenolphthalein. As the presence of this drug can be easily demonstrated by addition of alkalies it is only necessary to test the urine with a few drops of some alkali; a pink or reddish color shows the presence of phenolphthalein. If this reaction is negative we have a true diazo reaction. But in case this reaction is positive (the urine becomes red after the addition of alkalies), we may have the phenolphthalein reaction alone, or a true diazo reaction, together with the reaction produced by phenolphthalein. In order to test the urine in such a case of a suspected "mixed" reaction, add a few drops of some acid to the test tube in which there is a positive diazo reaction. If the color disappears altogether and appears again only after the addition of enough alkali to render the mixture alkaline, the reaction is due to phenolphthalein alone. If after the addition of acid the color becomes lighter, but does not disappear completely and becomes more intense by addition of enough alkali to render the mixture alkaline, the reaction is due to the substance or substances producing the true diazo reaction and also to the presence of phenolphthalein.

New York Medical Journal

April 1

9 Trachoma. S. H. Brown, Philadelphia.
10 A Hurried Bird's-Eye View of the Problem of the Modern Care of the Insane. M. Solomon, Washington, D. C.
11 Improvements in the Optical Construction of Cystoscopes. L. Buerger, New York.
12 The Problem of Prostitution and Venereal Diseases in New York City. F. Blerhoff, New York.
13 *A New Method of Direct Transfusion of Blood. A. L. Soresi, New York.
14 *An Unusual Case of Infantile Paralysis. H. G. Harris, New York.
15 A Case of Diabetic Glaucoma and Operation. S. Moskowitz, New York.
16 Treatment of Whooping-Cough. C. L. Henriques, New York.
17 Infundibulin in Hemorrhage Due to Uterine Carcinoma. J. C. Scott, Philadelphia.

13. **Direct Transfusion of Blood.**—The instrument devised by Soresi is said to do away with the necessity of opening the blood-vessels until they are ready to be brought together, so that the blood may flow immediately from one to the other. The surgeon is thus enabled to work on the blood-vessels while the blood is circulating in them, that is while the lumen is naturally open because it is full of circulating blood; therefore the blood-vessels not being contracted and retracted are easily grasped and secured by the instrument. Then the intima can without any difficulty be so inverted that the intima of the two blood-vessels can easily be brought in direct contact. Besides the one to be described, no other special instrument, hooks, serrefines or needles are necessary. The instrument is composed of two small metal cylinders which are put and held together by means of a small bar and a screw. Each cylinder is opened on its longitudinal axis by a simple pivot, and at one end, a little below the edge, is encircled by a crown of small hooks, the points of which are turned toward the other end. The blood-vessel is cuffed over the hooks of the cylinder; the vessels are opened and the anastomosis is made. Two cases are reported in which the method was used successfully.

14. **Infantile Paralysis.**—The interesting points in Harris' case are the length and the severity of the acute manifestations; the presence in the urine of the colon bacillus; the effect of hexamethylenamin; the symptoms indicative of meningitis and tetany; the relief of the symptoms following lumbar puncture; the appearance of the paralysis on the tenth day and its disappearance a week later. It is Harris' belief that the symptom-complex tetany is a term not infrequently applied to atypical cases of anterior poliomyelitis. Also, that the question of whether colon bacillus infection may not cause symptoms characteristic of so-called tetany, poliomyelitis or meningitis is worthy of future study.

Boston Medical and Surgical Journal

March 30

18 The Nurse and the Public Health. A. W. Goodrich, New York.
19 Fibrous Stricture of the Rectum. J. P. Tuttle, New York.
20 *Hemorrhagic Disease of the New-Born Infant. R. M. Green and J. B. Swift, Boston.
21 Medical Inspection of Schools in Boston. S. H. Ayer, Boston.
22 A Simple, Quickly Removable Head Bandage. E. C. Hill, U. S. Army.

20. **Hemorrhagic Disease of New-Born Infants.**—This paper is based on a study of fifty-one cases occurring in hospital practice during a period of not quite six years. The percentage incidence was 1.14. It was noted that the parity and civil status of the mother, the fetal presentation, the duration of labor and of complications of labor and the puerperium are factors

of no significance as predisposing or determining causes of hemorrhagic disease in the new-born. The seasonal incidence and the occurrence of hospital cases in groups tended strongly to confirm the theory of the infectious etiology of the disease. The earlier the onset of the disease, the worse was its prognosis; after one week, the prognosis became relatively, and after ten days, absolutely, good. Clinically the disease occurred in three fairly distinct types, the umbilical, the seromucus and the purpuric, which have an approximate respective mortality of 60 per cent., 50 per cent. and 22 per cent. The gross total mortality was about 50 per cent. The treatment was directed toward local hemostasis and increase of coagulability of the blood. Gelatin and rabbit serum gave the best results. Of thirteen patients receiving the gelatin treatment, nine recovered and four died. Of twenty-two patients treated with rabbit serum, twelve recovered and ten died. General supportive treatment: two recovered, four died; local hemostasis: two recovered, four died; no treatment; one recovered, two died.

Buffalo Medical Journal

March

23 Heart Nutrition. E. H. Long, Buffalo.
24 Serums and Vaccines. C. Hasse, Elmira, N. Y.

Maryland Medical Journal, Baltimore

March

25 An Extensive Ulcer of the Bladder Complicating Early Pregnancy. J. M. Hundley, Baltimore.
26 Importance of Direct Endoscopy in General Medical Practice. J. R. Winslow, Baltimore.
27 Medical and Surgical Aspects of Tumors, Including Inflammatory and Neoplastic Formations. J. C. Bloodgood, Baltimore.

Southern California Practitioner, Los Angeles

March

28 *Effects of Cholecystitis on the Heart. R. H. Babcock, Chicago.
29 *Acute Diffuse Edema of the Lungs (Cardiac). C. E. Yount, Prescott, Ariz.
30 Phthislophobia. I. W. Brewer, Manila, P. I.
31 A Psychologic Study. H. Forline, Redlands, Cal.
32 Cardiospasm. C. Moore, Los Angeles.

28. Chronic Cholecystitis.—Whenever Babcock sees a case of cardiac insufficiency, from whatever cause, he always pays close attention to the liver. Whenever he finds the right lobe showing enlargement he pays particular attention to its outline. He says that in most of these cases when there is tenderness, there is tension of the right rectus and if one palpates with firmness the tension becomes more marked. In nearly all these cases, by supporting the right hypochondrium with the left hand and producing just a slight pressure with the right hand, allowing the patient to take a breath of moderate depth, one can nearly always feel the border of the liver rise over the side of the hand. Then palpating at the outer border of the rectus, and at the side of the rectus one can feel the convex border of the liver. The left lobe is not so plainly palpable as the right. In some cases quick ballottement of Riedel's lobe will give the under hand the sensation of a soft body coming against it. With these symptoms and with tenderness Babcock feels certain of his diagnosis. A corroborative sign is Ewald's area of cutaneous hyperesthesia. If one runs a finger or key lightly down the patient's right back and there is left a sticking or pricking sensation opposite the ninth or tenth dorsal spine, the sign is present. It may extend out 2 or 3 inches. Many patients have this cutaneous hyperesthesia and that is a very strongly corroborative sign of chronic cholecystitis. Babcock emphasizes the fact that gall-bladder disease is more frequent than is generally recognized, and that its effects on the heart or circulatory system may be much more pronounced than is suspected, and hence may be a cause of myocardial breakdown.

29. Acute Diffuse Edema of the Lungs.—The three cases cited by Yount occurred in women in a fair state of health, suddenly and at night. They were 48, 50 and 67 years of age respectively. All three patients believed themselves dying; two were rescued from "drowning" in their own secretions. Yount believes that one case might be considered as of cardiotoxic origin, but the other two he considers to be of the cardioneurotic type. Frequent, previous examinations of the urine in these cases failed to show evidence of nephritis in any case. There was loss of radial pulse in all three women for a time, i. e., greatly lessened blood-pressure. Two of the patients died.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

March 15

33 A Demonstration of the Serodiagnosis of Syphilis. R. H. Mullin, Minneapolis.
34 Progressive Therapeutic Standards. C. A. Donaldson, Minneapolis.
35 *Sexual Excitability in Men of Advanced Years. F. R. Wright, Minneapolis.
36 Vesical Calculi. C. J. Holman, Mankato.

35. This article was also published in the *American Journal of Dermatology*, November, 1910.

Journal of the Indiana State Medical Association, Fort Wayne

March

37 Ocular Headache and Its Relief. F. C. Heath, Indianapolis.
38 The Laboratory Versus Clinical Methods in Practice of Medicine. D. M. Green, Muncie.
39 Autointoxication from the Alimentary Canal. P. B. Carter, Macy.
40 Suggestions in Cardiac Therapy. A. C. Kimberlin, Indianapolis.
41 Present Trend of Operative Obstetrics. G. B. Jackson, Indianapolis.

Southern Medical Journal, Nashville, Tenn.

March

42 Southern Surgeons and Surgery—Before, During and After the Civil War. W. O. Roberts, Louisville, Ky.
43 Factors that Influence the Prognosis in Operations for Cancer. G. W. Crile, Cleveland, Ohio.
44 *A Case of Aneurysm, with a New Method of Ligature of the Left Subclavian Artery. J. G. Sherrill, Louisville, Ky.
45 *Complete Absence of the Vagina; an Operation for the Formation of a Plastic Vagina. A. H. Ferguson, Chicago.
46 *Acute Multiple Urogenous Abscess of the Kidney Resembling Acute Unilateral Hematogenous Nephritis. G. T. Vaughan, Washington, D. C.
47 Suppurating Echinococcus Cyst of the Liver; Enucleation of Sac; Recovery. J. C. Oliver, Cincinnati.
48 Diagnosis of Extrauterine Pregnancy—When and When Not to Operate. E. G. Zinke, Cincinnati.
49 Omentopexy. M. H. Richardson, Boston.

44. A Case of Aneurysm.—The patient whose case is cited by Sherrill had a pulsating tumor about the size of a small melon situated at the upper part of the thorax, extending from near the median line and just above the level of the clavicle downward and outward almost to the margin of the pectoralis major muscle. This tumor pulsated synchronously with the heart and was distinctly expansile in character. No distinct bruit could be heard over the tumor, but an accentuated second sound of the heart was easily detected. The patient had an almost imperceptible pulse in the left radial and it was delayed somewhat compared to that of the right radial. The pulse of the left carotid was synchronous with that of the right radial; no tracheal tug; no marked dyspnea; no cough and no interference with deglutition or respiration. A diagnosis of subclavian aneurysm was made, and the various methods of treatment were discussed. It was finally decided to ligate the subclavian in the first portion of its course by attacking it from the posterior surface of the thorax. An incision was made along the posterior margin of the scapula about 4 inches long, dividing the skin and the muscles attached to the posterior portion of this bone. It was joined by an incision running from its inferior extremity to the spinous process. A similar incision was carried from its upper end in toward the spine. The soft tissues were dissected from the ribs with the skin and all hemorrhage controlled. The second, third and fourth ribs were removed for a distance of about 3 inches. The intercostal muscles were lifted off the pleura; the latter was gently pushed downward and outward with the finger and the subclavian artery readily came into view as it left the aorta at the level of the fourth dorsal vertebra. A small opening was made in its sheath and the needle was readily carried around it and a No. 3 catgut ligature placed in position. At this point of the operation, it was discovered by the assistants that the pulsation in the aneurysm did not cease. Further search revealed below the origin of the subclavian a rounded mass, seemingly not larger than a small orange, which was pulsating. The ligature on the subclavian being useless was removed. This having been accomplished the wound was closed and the patient left the table in good condition, and within an hour he was conversing freely

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with the attendants in the ward. He died ten days later on rising up suddenly in bed to eat his meal. The necropsy demonstrated an aneurysm of the arch of the aorta in its lower portion, which had ruptured into the esophagus. While he failed to accomplish the object desired in this case, the cure of the subclavian aneurysm, Sherrill feels that the procedure employed is feasible and an easy method of access to the first portion of the left subclavian.

45. Abstracted in THE JOURNAL, Jan. 14, 1911, p. 140.

46. **Abscess of the Kidney.**—The symptoms of the condition noted by Vaughan are the same as those seen in acute hematogenous nephritis, and the treatment is the same.

Journal of the Kansas Medical Society, Kansas City

March

50 Gall-Stones and Their Diagnosis. C. J. McGee, Leavenworth.
51 Placenta Prævia. F. A. Carmichael, Goodland.
52 Salvarsan. N. C. Morrow, Altamont.
53 Suppurative Otitis Media. C. L. Zugg, Kansas City.
54 Expert Testimony. F. M. Brady.

Archives of Pediatrics, New York

March

55* Value of Lumbar Puncture and of the Leukocyte Count in the Diagnosis of Acute Poliomyelo-Encephalitis. J. L. Morse, Boston.
56 A Clinical Study of Eighty-Six Cases of Empyema in Children. F. Huber, New York.
57 *A Case of Mediastinal Cyst Producing Compression of the Trachea, Ending Fatally, in an Infant of Nine Months. A. D. Blackader and D. J. Evans, Montreal.
58 *A Collected Study of Sixty Cases of Meningitis and Conditions Simulating Meningitis. A. Sophian, New York.
59 Disturbed Function of the Thyroid. S. V. Haas, New York.
60 *Typhoid Infection Involving Only the Gall-Bladder. W. G. Elmer, Philadelphia.

55. **Value of Lumbar Puncture.**—Morse believes that it seems safe to conclude from the present data that during the acute stage of acute poliomyeloencephalitis the cerebrospinal fluid is clear and not infrequently under somewhat increased pressure; that it often shows a fibrin clot, which may persist for two or three weeks and perhaps longer; that it always contains an excess of cells; that these cells are chiefly of the mononuclear type, most of them being lymphocytes; and that these changes are present before the appearance of the paralysis. These changes are, however, identical with those found in tuberculous meningitis, the disease with which it is most likely to be confounded. It is true, of course, that the cerebrospinal fluid in the tuberculous meningitis contains tubercle bacilli. They are missed in about 90 per cent. of the cases, however, if the examination is the usual routine one. If tubercle bacilli are found in the cerebrospinal fluid, the diagnosis of tuberculous meningitis is, of course, positive; if they are not found, the examination of the fluid is of no assistance in the diagnosis between tuberculous meningitis and acute poliomyeloencephalitis.

The characteristics of the cerebrospinal fluid in the early stage of acute poliomyeloencephalitis are so different from those in the early stage of cerebrospinal meningitis, in which the fluid is turbid or purulent, contains a large number of polynuclear cells and, as a rule, numerous meningococci—that in Morse's opinion there is no possibility of confusing them. Lumbar puncture is, therefore, of the greatest assistance in differentiating between these two conditions. It is of equal value in distinguishing acute poliomyeloencephalitis from influenzal and pneumococcus meningitis and from meningitis due to the pus organisms. The changes in the cerebrospinal fluid in the early stage of acute poliomyelocencephalitis are so definite that when they are found it is possible to exclude all diseases outside of the meningitides. Lumbar puncture, therefore, provides a most valuable means of diagnosis in this disease. Unfortunately, there is nothing whatever characteristic about the early symptoms of acute poliomyeloencephalitis, and in order to recognize the disease early, before the onset of the paralysis, at a time when treatment might possibly be of some value, it would be necessary to do a lumbar puncture on every sick child. This hardly seems a rational procedure. Treatment can do no good after the appearance of the paralysis, because the harm is then already done. Lumbar puncture at this time simply makes possible the verification of the clinical diagnosis. The value of lumbar puncture in the early diagnosis of acute poliomyeloencephalitis is, therefore, very limited, in spite of the marked changes in the cerebrospinal fluid in this disease. Morse regards the leukocyte count as of little or no assistance in the early diagnosis of acute poliomyeloencephalitis. There is at present not sufficient evidence to show whether or not there is a relative or absolute lymphocytosis in the early stages.

57. Abstracted in THE JOURNAL, June 11, 1910, p. 1996.

58. **A Study of Meningitis.**—In only nine of the sixty cases investigated by Sophian was a correct clinical diagnosis made by the attending physician. In only one case was a diagnosis of meningitis not made. This case was named a myelitis. From this study it is evident that of the true inflammations of the meninges, tuberculous meningitis is the form most frequently encountered (sixteen cases), and most often confused with the other forms, especially with epidemic cerebrospinal meningitis. Of the conditions simulating meningitis, Sophian found bronchopneumonia in children, especially those forms with apical lesions, most often mistaken for meningitis. Other conditions were gastro-enteritis, other acute infections, such as typhoid, and other conditions of the central nervous system, such as cerebrospinal lues, and anterior poliomyelitis. Sophian believes that in the majority of cases tuberculous meningitis can be diagnosed clinically; the clinical picture is, as a rule, very definite and distinct. Epidemic cerebrospinal meningitis has also, as a rule, a definite and distinct symptom-complex. Still, the two conditions, while frequently easily differentiated, may sometimes so closely resemble each other clinically, especially in the late stages of cerebrospinal meningitis or the early stages of tuberculous meningitis, that it may be impossible to make a clinical differential diagnosis. The other acute forms of meningitis, those caused by *Streptococcus pyogenes*, *Streptococcus mucosus capsulatus*, the pneumococcus, and *B. influenzæ*, present almost the same symptom-complex as epidemic meningitis. The history of previous disease, such as otitis media, may be of some help, but the diagnosis can only be established definitely by lumbar puncture and examination of the cerebrospinal fluid. Meningism complicating other acute infections, while sometimes difficult to differentiate from epidemic meningitis, can, as a rule, be diagnosed. Polioencephalitis often resembles tuberculous meningitis clinically; however, here the local palsies, such as hemiplegia are extensive and permanent.

Blood count is of aid in diagnosis. The principal features are, in the cerebrospinal form, the high leukocytoses of 20,000 or more, with the high relative polynucleosis up to 99 per cent. In the tuberculous meningitis is seen a moderate leukocytosis, up to 18,000 or occasionally more, with a moderate relative polynucleosis up to 80 per cent. or more. Poliomyelitis and polioencephalitis in the febrile stage show a slight leukocytosis; meningism secondary to another disease of course gives a blood-count depending on the disease causing it. Sophian urges that once a clinical diagnosis of meningitis is made, whatever the form, a lumbar puncture should always be performed. A clinical diagnosis is never certain and even with a complete picture of a type of meningitis errors may be made. A study of the cerebrospinal fluid will, in the case of acute suppurative meningitis, enable one at the first examination, as a rule, to find the infecting organism. The very unusual exceptions are rarely in the very onset of epidemic cerebrospinal meningitis, before the organism is free in the cerebrospinal fluid, or, as already mentioned, a localized meningitis, as the localized pneumococcus meningitis mentioned in Holt's cases. It is important, especially in meningococcus infection, when a positive culture is desired, to subinoculate the sediment on suitable culture media as soon as possible after withdrawal from the canal. In tuberculous meningitis in a very large percentage of cases the bacilli can be found in the cerebrospinal fluid at some time during the course of the disease, usually the first examination being sufficient to demonstrate the organism. When one can put the cerebrospinal fluid aside immediately to obtain the unbroken fibrin network, as was done in Hemenway's cases, the chances of finding the bacilli are much larger. Animal inoculation in positive cases, where bacilli have not been found, produces tuberculosis in four to six weeks.

Cytologic examination is extremely important. The increase in the number of cells in inflammatory meningitis is con-

stant; in the suppurative forms of meningitis the preponderance of polynuclear leukocytes is striking; in the late stages of cerebrospinal meningitis, however, as in chronic basic meningitis, a relative lymphocytosis is present; in tuberculous meningitis the excess of lymphocytes up to 100 per cent. is marked; occasionally, however, one will see a tuberculous fluid, in which bacilli have been found, which is cloudy and shows an excess of polynuclear leukocytes, up to 90 per cent. The gross fibrin content of the fluid after standing is a fairly constant guide, there being an increase in meningitis, and very little fibrin in normal fluid. The reduction test of Fehling's solution has been found of no value by Sophian. Noguchi's globulin test, in a small number of fluids examined, was substantiated in inflammatory condition, a positive reaction being present, indicating an increase of the globulin content in the cerebrospinal fluid.

60. **Typhoid Infection.**—The case reported by Elmer was that of a young girl who was infected with typhoid, but who resisted the infection, except for one organ, namely, the gallbladder, and her illness in his opinion was due solely to the cholecystitis. That she was infected with the poison of typhoid, he says, there can be no doubt, because eleven other patients who had been drinking milk from the same dealer developed typhoid in its characteristic form. About eighteen days after she had ceased to drink the milk, she developed a little fever. She had no nose-bleed, no vomiting, no pain in back or limbs, but had not felt well for some weeks. She had pain in the right side of the abdomen. The edge of the spleen, when a full inspiration was taken, could just be felt but was very indefinite. The gall-bladder could easily be palpated; it was distended and very tender. The temperature ran an irregular course, with marked daily remissions, reaching 103 F. or a little more in the late afternoons. Pulse varied from 80 to 100. Leukocyte count was 7,000. The patient did not seem ill, was usually hungry, was in good spirits most of the time, and had none of the apathy which usually results from the toxemia of typhoid. The urine was normal. On the seventh day, Elmer found three typical rose spots on the abdomen, the first that had appeared; and on the following day he obtained a characteristic clump reaction with a dilution of 1 to 50. The complete relief from all symptoms when the gall-bladder began draining, and the absolutely normal temperature which began about thirty-six hours later and continued without variation all through the convalescence, and the fact that the patient seemed and felt perfectly well from the time the gall-bladder was relieved, led Elmer to the conclusion that there could be no sloughing intestinal ulcers or extensive lymphatic involvement.

University of Pennsylvania Medical Bulletin, Philadelphia

February

61 Cerebral Decompression. C. H. Frazier, Philadelphia.
62 Malaria. W. Pepper, Philadelphia.
63 *Experimental Production of Leprosy in the Monkey (Macacus Rhesus). C. W. Duval, Philadelphia.

63. This article was also published in the *Journal of Experimental Medicine*, March, 1911.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

March

64 A Neuro-Epithelioma Developing from a Central Gliosis, After an Operation on the Spinal Cord. M. G. Schlapp, New York.
65 Facial Hemiatrophy in a Boy Ten Years Old. G. A. Moleen, Denver, Colo.
66 Colloid Bodies in the Central Nervous System: Their Presence After Severe Traumatism in a Case of Dementia Paretica. N. S. Yawger, Philadelphia.

Journal of Experimental Medicine, Lancaster, Pa.

March

67 Chemical Studies of the Brain in Cases of Dementia Præcox. W. Koch, New York.
68 The Blood-Supply of the Kidney. The Influence of the Vagus on the Vascularity of the Left Organ. R. Burton-Opitz and D. R. Lucas, New York.
69 Calcium Metabolism in a Case of Infantile Tetany. H. D. Haskins and H. J. Gerstenberger, Cleveland.
70 *The Succus Entericus. H. O. Mosenthal, New York.
71 *Absorption from Intramuscular Tissue. J. Auer and S. J. Meltzer, New York.
72 *Relations of the Interstitial Cells of Leydig to the Production of an Internal Secretion by the Mammalian Testicle. F. M. Hanes, New York.
73 A Histologic and Chemical Study of the Fatty Matter of Normal and Cryptorchid Testicles. F. M. Hanes and J. Rosenbloom, New York.
74 *Cultivation of the Leprosy Bacillus from the Human Tissues, with Special Reference to the Amino-Acids as Culture Media. C. W. Duval, New Orleans.
75 *Experimental Production of Leprosy in the Monkey (Macacus Rhesus). C. W. Duval, New Orleans.
76 Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
77 Cultivation of Tissues in Vitro and Its Technic. A. Carrel and M. T. Burrows, New York.

70. **The Succus Entericus.**—In experiments on dogs, Mosenthal noted that a nitrogen equivalent to about 35 per cent. of the nitrogen intake, though not necessarily derived directly from it, is daily secreted in the succus entericus in dogs on a mixed diet; about 10 per cent. is excreted in the feces, and about 25 per cent. is reabsorbed. The amount of reabsorbed nitrogen-containing material is considerably larger, if the bile and pancreatic secretion are included. Mosenthal says that the metabolic significance of this reabsorption can only be surmised. That it is probably of great importance is indicated by the fact that in the experiments recorded by him, the amount of nitrogen reabsorbed equaled approximately 25 per cent. of the nitrogen intake.

71. **Absorption from Intramuscular Tissue.**—Because the correctness of their previous work on absorption from intramuscular tissue was questioned, Auer and Meltzer repeated their experiments, proving again that the absorption after intramuscular injections is far superior to that after injections into subcutaneous tissue, approaching in its effectiveness that of an intravenous injection. The experiments were made on rabbits, and the results obtained were constant.

72. **The Interstitial Cells of Leydig.**—It is claimed by Hanes that the mammalian testicle elaborates an internal secretion necessary to the normal development of secondary sexual characters. The spermatogenic cells play no part in the formation of this secretion. One function of the Sertoli cells is to supply fat to the developing sperm cells. In the absence of the sperm cells from the mammalian testicle, fat accumulates in large amount in the Sertoli cells. The Sertoli cells seem to take no part in the production of an internal secretion. The interstitial cells of Leydig are, in all probability, responsible for the production of an internal secretion of the mammalian testicle.

74. A paper on the same subject is published in the *Archives of Internal Medicine*, February, 1911, and is abstracted in THE JOURNAL, March 25, 1911, p. 925.

75. This paper is also published in the *University of Pennsylvania Medical Bulletin*, February, 1911.

Texas State Journal of Medicine, Fort Worth

March

78 Puerperal Sepsis and Hints on Its Management. J. B. McMillan, Paris.
79 An Overlooked Source of Puerperal Infection. E. F. Wright, Royse.
80 The Care of the Puerpera. C. R. Hannah, Dallas.
81 The Care of Pregnant Women During Pregnancy and at Confinement. C. A. Schultz, Alvarado.
82 Obstetric Work in Country Practice. W. B. Huey, Elcampo.
83 Chloroform During the Second Stage of Labor. J. M. Meason, Bono.
84 Delayed Union and Ununited Fractures. W. A. Duringer, Fort Worth.

Virginia Medical Semi-Monthly, Richmond

March 24

85 Value of Lavage in Therapeutics, and Its Frequent Neglect. G. P. Hamner, Lynchburg.
86 Poisonous Serpents and Treatment of Their Bites. W. F. Driver, New Market.
87 Corneal Ulceration and Its Treatment. H. H. McGuire, Winchester.
88 Relation of Alcoholism and Drug Addictions to Preventive Medicine. T. D. Crothers, Hartford, Conn.
89 *Opium Poisoning—An Unusual Antidote. P. M. Strother, Scottsville.

89. **Opium Poisoning.**—The patient in this case took a 2-ounce mixture of tincture of opium and tincture of arnica, equal parts. At 4 p. m., four and a half hours later, her husband found her in a deep sleep, and seeing the empty bottle, immediately aroused her and administered warm mustard water until vomiting was induced. Strother reached her at 4:30 p. m. He found her awake and rational, though very

drowsy. Pulse was 136 and small; respiration was 26; the pupils were pin-head in size. She complained only of nausea and vomiting. Strychnin, 1/30 grain, and atropin, 1/150 grain, were given hypodermically, and a cup of hot black coffee by mouth, the latter being soon vomited, but the dose was repeated. During the ensuing three hours, the pulse-rate gradually fell to 120, with better volume, and respiration to 20, when Strother repeated the strychnin, 1/30 grain, omitting the atropin. After another three hours the pulse was 96 and of fair volume, and respiration was 17. At the end of six hours more, the pulse was 68, and respiration was normal. Strother asks: Was the tannin content of the arnica sufficient to antidote the morphin in the laudanum chemically, or did the depressant effect of the arnica on the vagi antidote the opium physiologically?

Alabama Medical Journal, Birmingham

February

90 Indications for the Removal of Adenoids and Tonsils. J. R. Snyder, Birmingham.
91 Electric Treatment of Poliomyelitis. T. A. Williams, Washington, D. C.
92 Among Ourselves. H. Johnston, Birmingham.
93 Lumbar Puncture as a Diagnostic and Therapeutic Measure. A. A. Walker, Birmingham.
94 Importance of Biology to Rational Medicine. E. P. Riggs, Birmingham.

Therapeutic Gazette, Detroit

March

95 *The Scientific Evidence of the Possibility of Intestinal Antisepsis. H. C. Wood, Philadelphia.
96 Symptomatic Relief in Aortic Aneurysm by Wiring and Galvanism (Moore-Conradi Method). E. J. G. Beardsley, Philadelphia.
97 *Action of Gossypii Cortex on Uterine Contractions. J. C. Scott, Philadelphia.
98 Magueys and Maguey Sap or Aguamiel, a Therapeutic Agent of High Value. C. S. Dolley, Mexico City, Mexico.

95. Abstracted in THE JOURNAL, Dec. 17, 1910, p. 2172.

97. **Action of Gossypii Cortex.**—The effect of this agent on the uterine contractions was studied by Scott. He found that the drug acts as well on the excised uterus as on the uterus with blood and nerve supply intact. In view of the extremely uncertain properties and keeping qualities of ergot and its preparations, and the fact that gossypii cortex is stable and very active, as shown on the cat's uterus, Scott thinks this drug is deserving of a more extended clinical use in the class of cases in which ergot is indicated.

Northwest Medicine, Seattle

March

99 Value and Handicap of the Medical Profession. J. T. Ronald, Seattle.
100 Treatment of Joint Infections by Aspiration and Injection of 2 Per Cent. Formalin in Glycerin. C. L. Poley, Portland, Ore.
101 Diagnostic Significance of Mucus in the Test Meal. H. P. Marshall, Spokane, Wash.
102 Helpful Points in Anesthesia. C. G. Parsons, Denver, Colo.
103 Malaria in Utah. C. M. Clark, Provo, Utah.
104 Imbalance of Ocular Muscles. A. H. Sawins, Spokane, Wash.
105 Tuberculous Meningitis. J. H. Bristow, Portland, Ore.
106 Insect Bites. R. A. Pearse, Brigham City, Utah.

Pennsylvania Medical Journal, Athens

March

107 *Arterial Hypertension and Its Relation to Morbid Changes in the Eye. L. C. Peter, Philadelphia.
108 A Case of Varix or Angioma Venosum of the Orbit. J. F. Klinedinst, York.
109 *The Pelvic Fascia with Relation to the Operation for Cystocele. R. E. Brenneman, Pittsburg.
110 *Cecostomy Versus Appendicostomy for Colon Lavage. W. M. Beach, Pittsburg.
111 *An Operation for Ankylosis of the Hip in Which Baer's Membrane Was Used. G. G. Davis, Philadelphia.
112 *Treatment of Acne Vulgaris. J. G. Burke, Pittsburg.
113 Progress in Empirical Therapeutics. J. W. Boyce, Pittsburg.
114 The Law Governing Suits for Malpractice in Pennsylvania. S. Scoville, Philadelphia.

107. **Arterial Hypertension.**—The systolic blood-pressure was carefully taken by Peter in 104 cases, mostly chronic interstitial nephritis, in which there was a neuroretinitis or a retinitis. For purposes of comparison nine cases of syphilitic neuroretinitis are included in the report, showing an average blood-pressure of 132 mm. of mercury and three cases of chronic parenchymatous nephritis with an average pressure of 132 mm. The average pressure in twenty cases of retinitis was 165 mm.; in fifty-nine cases of neuroretinitis it was 185 mm.; in three cases of albuminuric retinitis, 190 mm.; in six cases of hemorrhagic retinitis, 205 mm., and in three cases of papillitis, 225 mm. Thirty-three of the ninety-four kidney cases occurred in men and sixty-one in women. The higher pressures were observed relatively much more frequently in men than in women. Peter concludes that arterial hypertension is the chief cause of the eye-ground phenomena observed in chronic interstitial nephritis and arteriosclerosis. Similar vascular changes, associated with high blood-pressure, may, he says, be observed at times, before these diseases are diagnosed by other clinical symptoms. It frequently acts as a cause for subconjunctival hemorrhage and is so closely associated with glaucoma that it should be regarded as an active factor in the development of the disease. The author urges that in order to prevent and to treat rationally the more serious eye conditions, routine blood-pressure studies should be made in all cases of intra-ocular disease not traumatic in origin.

109 and 110. Abstracted in THE JOURNAL, Nov. 19, 1910, p. 1838.

111. Abstracted in THE JOURNAL, Nov. 12, 1910, p. 1757.

112. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1672.

Journal of Infectious Diseases, Chicago

March

115 Transmission of Trypanosoma Lewisi by Rat Fleas (Ceratophyleus Sp. and Pulex Sp.), with Short Descriptions of Three New Herpetomonads. L. D. Swingle, Lincoln, Neb.
116 *Influence of Ether and Ether Anesthesia on Bacteriolysis, Agglutination and Phagocytosis. E. A. Graham, Chicago.
117 Influence of Fresh and Autolyzed Organ Extracts on Experimental Tuberculosis. W. C. White and E. Zeublin, Pittsburg, Pa.
118 Immunologic Reactions of Oidiomycosis (Blastomycosis) in the Guinea-Pig. B. F. Davis, Chicago.
119 Classification of the *B. Coli* Group. D. D. Jackson.
120 Method for Determining the Germicidal Value and Penetrating Power of Liquid Disinfectants. A. I. Kendall and M. R. Edwards, Boston.

116. An abstract of this work was published in THE JOURNAL, March 26, 1910, p. 1043.

Long Island Medical Journal, Brooklyn, N. Y.

March

121 Value of Surgical Diagnosis in Upper Abdominal Diseases. J. B. Deaver, Philadelphia.
122 *Anomalies of the Colon as Demonstrated by the Roentgen Ray. C. Eastmond, Brooklyn.
123 Surgical Indications in Lesions of the Large Intestine. R. S. Fowler, Brooklyn.
124 Provisions for the Health of the Seamen in the Present-Day Warship. W. J. Baxter, U. S. Navy.
125 The Navy and the Important Relations to the Naval Establishment Borne by the Medical Corps. C. F. Stokes, U. S. Navy.
126 The Medical Profession. J. C. MacEvitt, Brooklyn.

122. **Anomalies of the Colon.**—It is believed by Eastmond that abnormal conditions of the colon are frequently the cause, not only of persistent constipation, but also of the vague, indefinite abdominal symptoms and the nervous conditions so often seen and so hard to attribute to any definite diseased entity. The anomalous conditions of the colon are summarized by him as follows: (1) general prolapse of the transverse colon producing the "U" or "V" type; (2) prolapse of the hepatic or splenic flexure with or without angulation; (3) angulation of any part, especially of the sigmoid; (4) prolapse of one-half of the entire colon; (5) general prolapse of the entire colon into the pelvis; (6) spasm of one part or of the entire colon; (7) anomalous development of any part, such as a loop formation from the presence of an unduly long mesentery; (8) adhesions, either alone or associated with any of the above conditions. In all these conditions, there is some factor which is sufficient to produce partial obstruction and damming back of fecal stream. In the cases of adhesions and angulations, there is almost uniformly found a dilatation behind the obstruction. This, with the ensuing stasis, affords ample opportunity for undue absorption of intestinal material, auto-intoxication, with its headache, drowsiness, listlessness, etc. With prolapse, the displaced portion of the viscus, by dragging on its natural supports, is productive of backache, and with the interference in circulation and ennervation, there follows congestion, inflammation, spasm, local pain and tenderness, and that train of nervous phenomena which is termed neurasthenia. The value of

Roentgen-ray examination in these cases lies, first, in the detection of the true state of affairs, and second, in the determination thereby whether it is a purely medical one that may be relieved and possibly cured by general and local treatment, or whether operative procedures will be necessary to secure the desired results.

Medical Herald, St. Joseph

March

127 Hints on the Etiology of Disease. L. A. Merriam, Omaha, Neb.
128 Uterine Fibroids Complicating Pregnancy, Labor and the Puerperium. M. Strong, Omaha, Neb.
129 Medical Treatment of Inoperable Cancer of the Parturient Tract. R. Willman, St. Joseph, Mo.
130 The Crime of Love. G. H. Bogart, Brookville, Ind.
131 Treatment of Cerebral Affections. W. C. Abbott, Chicago.
132 Two Case Reports with Stomach Manifestations. H. C. Crowell, Kansas City, Mo.
133 Dystrophies, Syphilitic in Origin. H. Lee, St. Joseph, Mo.
134 Prognosis in Chronic Valvular Disease of the Heart. C. A. Good, St. Joseph, Mo.

American Journal of Surgery, New York

March

135 Indications for Gastro-Enterostomy. J. B. Bissell, New York.
136 Cystoscopy and Urethral Catheterization in Young Children. E. Beer, New York.
137 Injuries to the Kidneys, with End-Results. P. M. Pilcher, Brooklyn, N. Y.
138 A Case of Cylindroma: Removal of Orbital Tumors. J. H. Claiborne and E. L. Oatman, New York.
139 Surgery of Moles, Warts, Nevi and Cysts of the Skin. D. W. Harrington, Milwaukee, Wis.
140 Traumatic Epilepsy and Traumatic Insanity. G. M. Hammond, New York.
141 Traumatic and Accidental Hernias, as They Affect Employee and Employer. R. W. Corwin, Pueblo, Colo.
142 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
143 An Improved Method of Intermittent Wound Irrigation. A. J. Bendick, New York.
144 A Means of Tying Knots When One End of the Suture Is Very Short. A. L. Sorest, New York.

American Journal of the Medical Sciences, Philadelphia

April

145 *The Therapeutics of Digitalis and Its Allies. A. R. Cushny, London.
146 Personal Experiences with Salvarsan in Syphilis. H. Goldenberg and D. J. Kalikli, New York.
147 *Physiology of the Pituitary Gland and the Actions of Its Extracts. C. J. Wiggers, Ann Arbor, Mich.
148 *Stiff and Painful Shoulders, with Loss of Power in the Upper Extremity. T. T. Thomas, Philadelphia.
149 Interrelation of the Organs of Internal Secretion. R. G. Hoskins, Columbus, Ohio.
150 *Sudden Onset of Pott's Disease Without Deformity of the Vertebræ. W. B. Cadwalader, Philadelphia.
151 Pathologic Findings in the Parathyroids in a Case of Infantile Tetany. B. S. Oppenheimer, New York.
152 *Sarcoma of the Vagina. J. McFarland, Philadelphia.
153 *Prognosis of Pulmonary Tuberculous Lesions Involving the Whole of or More Than One Lobe. J. Walsh, Philadelphia.

145. Digitalis and Its Allies.—There is no question in Cushny's mind that digitalis and its allies are too much feared by the medical profession. The "cumulative" action, he says, has been held over us as a bogey for so many years that many prescriptions contain this valuable drug in harmless and useless doses. As regards their relative usefulness, he says that there is little difference between digitalis, squills or strophanthus. We get the same beneficial results and the same undesirable ones as regards the heart, and a patient who shows symptoms of heart block under digitalis suffers from the same irregularity under squills or strophanthus, while when extra-systole is induced by one it follows from all. Strophanthus is often said to have less tendency to raise the blood-pressure than digitalis, but in patients neither induces any rise of pressure, and in some individuals, both cause an equal fall. There is, on the whole, rather less tendency to headaches, nausea and vomiting under strophanthus and squills than under digitalis, but the difference is not very marked and headache is caused in some cases by all three. Slight diarrhea has followed the use of squills more than the others, and strophanthus also tends to cause this more than digitalis. This tendency to diarrhea is still more marked from the use of helleborin and apocynum.

In animal experiments, one of the characteristic effects of digitalis medication is the rise of blood-pressure, which arises in part from the heart action, and in part from a constriction of the arterioles. In patients the blood-pressure is rarely augmented by digitalis and may in fact fall as the general improvement sets in. This, Cushny thinks, is due to the much greater efficiency of the vasomotor mechanism in man, which has been developed to permit of his assuming the erect attitude. As the heart fails in disease, the organ which first suffers is the brain; but anemia of the brain is promptly remedied by constriction of the abdominal vessels, by which the blood is again directed to the head areas. If digitalis is then given and the heart action improves, the first effect would be to increase the blood-supply of the brain, and this leads the sentinel in the medulla to relax its vigilance, the mesenteric vessels are allowed to relax and the improvement in the heart may thus be coincident with lowered blood-pressure. In his experience there is no significant increase in the amount of urine, except when dropsy is present.

147. Physiology of the Pituitary Gland.—The chief idea brought out by Wiggers is that the anterior lobe of the pituitary gland evidently elaborates a secretion that is necessary to life and to normal metabolism and development. This substance has so far resisted extraction by various solvents, hence its chemical nature and physiologic properties remain unknown. The posterior lobe, which is not of vital importance, contains or secretes a substance that may be extracted by water, glycerin or salt solution, and resists boiling, but it has not been demonstrated that it is identical with the secretion of the anterior lobe or that it represents its vital principle. The extracts constrict the peripheral vessels (probably by a direct muscular action), thus producing a marked rise of arterial blood-pressure. This constriction is not equally pronounced in all organs, for the renal vessels are, at least passively, dilated during its action. These extracts are generally stated to slow and strengthen the heart, but myographic tracings of the intact and perfused heart made by Wiggers, indicate a depressing influence to be the most constant and characteristic one, an increase in the amplitude being only exceptionally the case. The slowing, as well as depression, are, he thinks, largely attributed to a direct cardiac action, but the former may be augmented by a vagus effect. Pituitary extract resembles adrenalin in its action only in that it causes a rise in blood-pressure. The manner in which they affect the heart and blood-vessels, as well as the effects induced, are entirely different. In addition to its cardiovascular actions, pituitary augments the secretion of urine and inhibits the flow of pancreatic juice, but it has not been definitely determined whether these varied reactions are due to separate substances, to a specific affinity of a single substance for different cells, or whether they are secondary to changes in the circulation.

148. Stiff and Painful Shoulders.—A periarthritis from tears of the axillary portion of the shoulder capsule, due to forced abduction, in Thomas' opinion offers the best explanation of the stiff and painful shoulders, with loss of power in the arm, variously diagnosticated as fibrous ankylosis, neuritis, paralysis of the deltoid, traumatic arthritis, etc. The most characteristic feature is a scapulohumeral limitation of movement, sometimes slight, often marked, but never complete. The associated loss of power and atrophy are due in part to disuse, but probably in most part to the perineuritis, neuritis and resulting adhesions and compression of some or all of the brachial nerves in the axilla, adjacent to the wounded joint. The audible and palpable tearing which accompanies the breaking up of the limited abduction and external rotation, in chronic cases, by the leverage of the arm, under an anesthetic, is produced not by the tearing of fibrous adhesions in the bursa, but of the axillary portion of the capsule shortened by cicatricial contraction in its relaxed condition. This bursa is circumscribed to the upper surface of the greater tuberosity of the humerus and the adjacent small portions of the rotators inserting into it. When the bursa is inflamed, Thomas says, the diagnosis should easily be made by the acute tenderness localized to the upper surface of the humerus, directly in front of the acromion, when the arm is in the position of rest, that is, adduction and internal rotation, which it practically always occupies. The capsule lesion is typified by that which occurs in an anterior dislocation of the shoulder, the frequency of which is nearly as great as that of the other dislocations of the shoulder combined.

Those cases of stiff and painful shoulder in which there is no history of dislocation are explained, in the first place,

by the spontaneous reduction of many dislocations as the arm falls from its abducted position to the side of the body, so that they are not recognized as such; and in the second place, by the much greater frequency of milder but similar tears (sprains) from forced abduction, which are not sufficiently extensive to permit the occurrence of a dislocation. Sprains are rarely recognized in this joint, because they are peculiarly obscure as to their etiology and symptomatology. At the moment of the forced abduction the patient is excited and does not appreciate the relation between this movement and the pain it produces, the capsule being poorly supplied with nerves and the pain at the moment probably being slight. The arm immediately drops to the side into the position of most complete relaxation of the torn portion of capsule, and is kept there afterward because of the pain produced by abduction and external rotation which drag on the seat of injury. The lesion is deeply seated and localized with difficulty, and the disturbances which follow are misinterpreted. The most rational method of treatment is that which aims at increasing the length of the contracted tissues to the normal, favors the absorption of inflammatory material, and increases the power of the weakened and atrophied muscles.

150. **Paralysis in Pott's Disease.**—Four cases are reported by Cadwalader. Three terminated fatally and a careful postmortem examination was made. They presented swelling and destruction of axis cylinders, proliferation of the glia, round-cell infiltration, sclerosis of the blood-vessels, perivascular infiltration, necrotic softening of the central gray matter, and compound granular cells at the level of greatest compression of the spinal cord. In one case there was an internal hydrocephalus affecting only the lateral ventricles; the foramina, however, were not occluded, but the cells of the chorioid plexus were decidedly diseased; it is conceivable, therefore, that as a result of perverted function of diseased cells there may have been an increase of secretion sufficient to cause this distention. But it is also possible that hydrocephalus may have been the result of compression of the cord, and that if an ophthalmologic examination had been made, choked disk would have been found. At other levels of the spinal cord where compression seemed to play no part, there were definite though very moderate signs of vascular disease, consequently it might seem as if there was some other element responsible as well as compression. After searching the literature on this subject Cadwalader was able to find only two cases described in which paralysis developed instantaneously without deformity of the vertebræ.

152. **Sarcoma of the Vagina.**—McFarland presents a very comprehensive statistical study of 102 cases and reports a new case of grape-like sarcoma of the vagina in an infant.

153. **Tuberculosis of the Lungs.**—Despite the pathologic findings, Walsh believes that clinical tuberculosis, that is, tuberculosis in individuals with some susceptibility, begins more commonly at the top of the right lung. A study of the progression of tuberculosis of the lung on autopsies at the Phipps Institute showed that in the cases in which it was possible to judge the progression, the progression commonly corresponded to what Walsh has pointed out as the most fatal, clinically; in other words, the majority of cases showed progression practically throughout one side before the other was involved. Lesions involving the whole of one lobe of the left lung usually give better results than lesions of the same size in the right lung. One reason for this appears to be that the large lesion on the left more frequently represents the secondary development in a somewhat resistant case. Lesions involving an amount of lung tissue the size of the left upper lobe give a better prognosis when the opposite side shows a chronic healed lesion.

Louisville Monthly Journal of Medicine and Surgery

March

154 Headache or Migraine. Hemicrania. C. Skinner, Louisville.
155 A Case of Sarcoma of the Lung. C. Skinner, Louisville.
156 Pyloric Stenosis in an Infant. S. J. Meyers, Louisville.
157 A Case of Multiple Adenocarcinoma. W. O. Roberts, Louisville.
158 A Case of Cancer of the Cecum. W. F. Boggess, Louisville.
159 Steel Removed from the Eye with a Magnet. S. G. Dabney, Louisville.
160 Syphilis of the Stomach. J. J. Moren, Louisville.

Providence Medical Journal

March

161 Dementia Præcox. A. H. Harrington, Howard, R. I.
162 Cesarean Section. D. F. Gray, Providence.
163 A Case of Multiple Warts. W. E. Wilson, Pawtucket, R. I.
164 Ehrlich's New Remedy for Syphilis. F. T. Fulton, Providence.
165 Feeble-Mindedness. J. H. Ladd, Slocums, R. I.
166 Puerperal Insanity. H. G. Partridge, Providence.
167 The Medicolegal Examination of Blood-Stains. W. G. Dwinell, Providence.

Iowa Medical Journal, Des Moines

March

168 Chronic Low-Grade Inflammation of the Ocular Tunics and Its Influence on Errors of Refraction. H. B. Gratiot, Dubuque.
169 Operative Procedure for Brain Abscess of Otitic Origin. L. W. Dean, Iowa City.
170 Progress in Matters of Public Health. T. U. McManus, Waterloo.
171 Tuberculosis in Iowa. W. G. Carhart, Marion.
172 Diagnosis of Renal and Ureteral Calculi. D. N. Eisendrath, Chicago.
173 Review of Surgical Progress. J. C. Rockafellow, Des Moines.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

March 18

1 *Aphasia. R. Saundby.
2 *Two Cases of Hereditary Congenital Word Blindness. J. Hinshelwood.
3 An Epidemic of Infantile Paralysis in Bristol. G. Parker.
4 Etiology of Poliomyelitis. A. E. Vipond, Montreal.
5 *The Gastric Origin of Angina Pectoris. H. W. Verdon.
6 *Beneficial Effect of the Ingestion of Cane Sugar in Certain Forms of Heart Disease. A. Goulston.
7 Mechanotherapeutics in Treatment of Chronic Constipation. E. F. Cryiax.
8 Salvarsan in Syphilis. A. Evans.
9 Curative Effect of Salvarsan in Frambesia. H. Alston.
10 Occurrence of Fluid in the Abdominal Cavity in Pregnant Rabbits. C. Bolton and A. M. H. Gray.
11 Histology of Rheumatic Carditis and Other Rheumatic Phenomena. C. Coombs.
12 The Rat Flea as the Intermediate Host of a Rat Tapeworm. W. Nicoll.

1. **Aphasia.**—Saundby believes that it is difficult to escape from the amount of evidence brought forward to show that destruction of the third frontal convolution, even on both sides, does not cause aphasia; but almost equally cogent, and even more abundant, he says, is the evidence that aphasia occurs in cases in which this convolution is intact. The usual answer in this evidence is that while it may appear intact, it is not so really. Marie has lately reported three cases of this kind in which the convolution was examined microscopically by serial sections without any lesion being discovered. The only rejoinder that the supporter of Broca can make is that the lesion is functional in character, and reveals itself by no change which can be detected by present means of research. But, continues Saundby, those who make this assertion must bear the onus of proof, and it is not easy to produce evidence in its favor. If the convolution of Broca is the seat of the faculty of language, its destruction should be invariably followed by the loss or impairment of that faculty; further, when there is loss or impairment of the faculty of language, this convolution should show always some demonstrable change; if neither of these relations exist, then the only possible verdict must be that the existence of the supposed relation is not proved.

2. **Hereditary Congenital Word Blindness.**—The first case cited by Hinshelwood, that of a girl, is a typical case of abnormal difficulty in registering in the brain the visual symbols of letters and words. She has now, after seven years of teaching in the ordinary way, acquired the visual memories of the most common monosyllabic words. Hinshelwood has seen cases in which after seven years of ordinary training, the child had practically acquired nothing so far as the visual memory of words and letters is concerned. He regards the case of this girl as a mild case of congenital word blindness and, if taught in the proper way, he is certain that she will soon be able to read fairly well. The second case, that of a boy of 10, is of a much more severe type, and the difficulty has been much greater than in the case of the girl, as, after four years' sim-

ilar training, the boy has acquired scarcely any visual memories of words or letters, not even recognizing by sight all the letters of the alphabet. An important point in this case is that the child has experienced the same difficulty in dealing with figures. Hinshelwood says that pure congenital word blindness, which is a local affection of a limited cerebral area, can always be overcome by perseverance and proper methods of education, and herein lies the great importance of the recognition at an early period of the true character of such cases.

5. **Angina Pectoris.**—In one case cited by Verdon, the patient, a man of 63, when seen had been suffering from an anginal seizure for half an hour. He had been making ineffectual efforts to expel wind from his chest, and allowed the introduction of an esophageal tube, a procedure which resulted in an exhaustive liberation of gastric flatus. The effects of the operation became instantly apparent in the altered aspect of the patient. His color returned, and he seemed no longer in pain. The seizure was manifestly at an end. On two occasions he again resorted to the operation of gastric deflation, and on each he brought the seizure to a sudden and abrupt close. The patient had suffered from anginal seizures from time to time for several years; the first severe attack occurred in 1908. When a seizure has been brought to an abrupt and complete termination by the introduction of the esophageal tube, and when later seizures have shown themselves amenable to a similar operation, Verdon thinks the fact that the seizures are the result of tension of the gastric atmosphere is demonstrated beyond question.

6. **Cane Sugar in Heart Disease.**—That glycogen is essential to healthy, well-nourished muscle is shown by the fact that it furnishes a source of energy for the needs of the tissue cells, and particularly for muscle work. The glycogen of a muscle disappears in proportion to the work done by the muscle, and prolonged muscular work, especially in starvation, may wipe out quickly the entire store of glycogen in the body. All modern physiologists agree that glycogen stored up in a muscle is converted into dextrose by an amylolytic ferment before being actually used for producing muscular energy. Such a ferment has been discovered by Nasse. In cane sugar, therefore, Goulston believes that we have a simple means for supplying the muscles with dextrose for the purposes of their activity. Dextrose, he declares, is capable of nourishing the heart muscle in a wonderful and peculiar manner. In his hands the good effect of taking cane sugar to improve the nutrition of the musculature of the heart has been quite in accordance with what was to be expected from the known physiology of the subject. He cites seven cases illustrating the clinical value of this mode of treatment. His cases include two of dilated heart in patients of advanced age; two of valvular heart disease; one each of postinfluenzal dilatation of the heart, heart strain and heart failure in pulmonary tuberculosis. Goulston uses granulated cane sugar, the patient taking as much as desire may dictate. Only occasionally was there a trace of sugar in the urine.

17. **Polypeptids and Gastric Contents.**—In connection with an investigation on the peptid-splitting action of pathologic fluids, the test proposed by Neubauer and Fischer has, in the authors' hands, yielded results suggesting an advocacy for that extended use which alone can determine its permanent utility. They say that it has yet to be demonstrated that the endo-enzymes of cancer cells possess abnormal characters and activities.

Lancet, London

March 18

13 Ankylostoma Infection. A. E. Boycott.
14 The Anthropology of Ancient British Races. A. Keith.
15 Salvarsan in Syphilis. J. McIntosh and P. Fildes.
16 Salvarsan in Syphilis. T. W. Gibbard and L. W. Harrison.
17 *Diagnosis of Gastric Carcinoma by the Cleavage of Polypeptids. I. W. Hall and G. S. Williamson.
18 *The Iodin Method of Sterilizing the Skin. P. Turner and H. C. Catto.
19 An Egyptian Holy Man. C. G. Seligmann.

18. **Iodin Sterilization of the Skin.**—The observations made by Turner and Catto confirm the value of the iodin method of sterilizing the skin. They made careful bacteriologic investigations in thirty-two cases in which varied operative procedures were resorted to. In certain cases the B.P. tincture (2.5 per cent.) was employed, and in others the following solution: iodin, 30 gms.; potassium iodid, 40 gms.; distilled water, 500 c.c. Before using, this was diluted with an equal volume of methylated spirits, so that the strength of the solution was 3 per cent. For the satisfactory action of the iodin it is essential that the skin be dry. Shaving should be done with a sharp razor without lathering the skin or, if soap and water are used, the skin must be subsequently dried with a pad or towel and then washed over with ether and again dried before the iodin solution is applied. In acute cases the whole process is carried out on the operating table after the patient has been anesthetized. In ordinary cases the preparation is carried out in the ward. The iodized area is then covered with a pad or towel. Before commencing the operation a second application of the iodin solution is made, the skin being now in a thoroughly dry condition. In the thirty-two cases quoted in which the patients were prepared in this manner, a thin strip of the whole thickness of the skin was removed immediately after the first incision and conveyed to the laboratory in a sterilized test-tube plugged with cotton-wool. The investigation consisted in cultivating the piece of skin in nutrient broth for a period of seventy-two hours. At the end of twenty-four and forty-eight hours respectively, the culture was looked at, and at the slightest suspicion of turbidity, "hanging drop" preparations were made and examined. If the fluid remained clear the cultivation was allowed to proceed until 72 hours had elapsed, when it was always examined, both macroscopically and microscopically. In the cases in which microorganisms were present nutrient agar tubes were inoculated from the broth and the particular bacterium further studied and identified. In no case did the culture show the presence of contaminating organisms from the air. Healing was by primary union except in three acute cases in which drainage was necessary. In none did the iodin produce any dermatitis. Though the incisions were made in very varied situations, it is interesting to note that in the three cases in which the skin was infected the wound was in the groin.

Journal of Tropical Medicine and Hygiene, London

March 15

20 Further Researches on the Hyphomycetes of the Tinea Imbricata. A. Castellani.
21 Etiology of Elephantiasis. G. C. Low.

British Journal of Children's Diseases, London

March

22 *Splenomegaly with Recurrent Jaundice Ending in Hepatic Cirrhosis and Ascites, with Remarks on the Splenomegaly of Inherited Syphilis in Children. F. P. Weber.
23 Treatment of Congenital Syphilis with Salvarsan. C. F. Marshall.
24 *Venous Murmurs Heard at the Root of the Neck in Children. C. Coombs.
25 Difference Between Manifestations of Rheumatism in Childhood and Adult Life. J. B. Barrett.

22. **Splenomegaly With Recurrent Jaundice.**—An investigative study has convinced Weber that moderate splenomegaly in children of from 5 to 16 years of age may be almost the only evidence of an inherited syphilitic taint, but in such cases Wassermann's seroreaction for syphilis (if available) would doubtless generally give a positive result. Other evidences of inherited syphilis are occasionally forthcoming; the teeth may be more or less of the Hutchinsonian type, there may be interstitial keratitis, persistent cracks at the corners of the mouth, a history of syphilis in the parents, or of inherited syphilis in brothers and sisters. The splenomegaly of inherited syphilis is often accompanied by occasional (usually only slight) attacks of obstructive jaundice and by excess of urobilin (and urobilinogen) in the urine. Hepatic cirrhosis, with or without ascites, may be associated with the splenomegaly, and at the time of death the hepatic cirrhosis in such cases is probably usually of the ordinary multilobular "hobnail" type. Though it seems doubtful that the cirrhosis of the liver in these cases is of specific syphilitic origin, it is quite possible that the presence of an inherited syphilitic taint may diminish the resistance of the liver toward the action of toxins (including alcohol) and render it specially liable to cirrhosis. The inherited syphilis in these cases may be—

but often is not—associated with some degree of "infantilism," i. e., more or less retardation in general physical development and especially in the sexual functions. In these cases great caution must be employed in regard to antisyphilitic, especially mercurial, treatment, probably on account of the general delicacy of the patients and their liability to renal and catarrhal complications. Iodid of iron seems to be useful. In these cases there is generally very little real anemia, even when the general appearance of the patient is cachectic; and anemia, if present, is often only temporary. In some cases, on the contrary, there may be a certain amount of polycythemia, probably of reactive nature, sometimes sufficient to constitute a symptom-complex, which might be termed "splenomegalic polycythemia of inherited syphilis in children." Other unknown (toxemic?) conditions may cause splenomegaly and recurrent jaundice in children, similar to that met with in cases of inherited syphilis. Abdominal crises (pain, etc.), of uncertain explanation, may occur occasionally both in the inherited syphilitic and in the other cases. Cases of "familial" splenomegaly occurring in two or more brothers or sisters may occasionally be connected with an inherited syphilitic taint, but familial splenomegaly in children is better recognized in connection with congenital chronic acholuric (so-called hemolytic) jaundice, and with primary splenomegaly of the "Gaucher type." Splenomegaly in children may be the most important sign of the presence of hepatic cirrhosis, when the former is either secondary to, or due to the same cause as, the latter. Some cases of splenomegaly in children with inherited syphilis probably ultimately present the characteristic, clinical features of splenic anemia or Banti's disease.

24. **Venous Murmurs.**—In a majority of children varying in age from 3 to 15 years, Coombs heard a murmur immediately below the sternoclavicular joint or joints. It was slightly commoner in boys. It was commoner and louder on the right side. This murmur was continuous, but accentuated at the beginning of systole and of diastole, especially the latter. It was at its loudest during the inspiration. Though often heard with the head in the erect position, it was in such cases heard more clearly, and in some other cases heard only, when the head was fully retracted. Lateral rotation of the head also made it more clearly audible. It is usually abolished when the patient lies down. It is produced in the internal jugular veins; by what mechanism is not clear to Coombs, though its accentuation by retraction of the head is no doubt due to the flattening of the veins against the transverse processes of the cervical spine. Though associated with anemia and febrile states, it is heard also in perfectly healthy children. It is not especially associated with tuberculosis or any enlargement of the intrathoracic lymph glands, and has no diagnostic value.

Medical Press and Circular, London

March 8

26 Talipes Equinovarus and Its Treatment. E. Gillespie.
27 The Retraction Ring as a Cause of Obstruction in Labor. R. Jardine.
28 A Case of Darier's Disease. G. G. Stopford Taylor.
29 The Marriage of Cardiac Subjects. D. Renon.

March 15

30 Congenital Torticollis or Wry Neck. G. L. Chiene.
31 Vision. W. R. MacDermott.
32 Lactation After Removal of Both Fallopian Tubes. J. C. McWalter.

Annales des Maladies des Org. Génito-Urinaires, Paris

February 15, XXIX, No. 4, pp. 289-383

33 *Study of the Functional Activity of the Kidneys by Means of Phenoisulphonephthalein. L. G. Rowntree and J. T. Geraghty (Baltimore), Concluded in No. 5.
34 Technic for Suprapubic Incision. (Instrumentation moderne de la taille hypogastrique.) F. Cathelin.

33. **Practically the same article appeared in the *Journal of Pharmacology and Experimental Therapeutics*, July, 1910, and was abstracted in THE JOURNAL, Aug. 20, 1910, page 720.**

Archives des Maladies de l'App. Digestif, Paris

February, V, No. 2, pp. 49-108

35 Clinical Research on the Evacuating Function of the Stomach in Health and Disease. S. Kemp.
36 Dosage of Amylase in the Feces in Diagnosis of Pancreatic Functioning. C. Durand.

Archives de Médecine des Enfants, Paris

March, XIV, No. 3, pp. 161-240

37 *Septicemia and Glandular Lesions in Scarlet Fever. V. Hutinel.
38 *Excessive Enlargement of Breasts at Puberty. (Hypertrophie mammaire de la puberté.) H. Caubet.
39 *Clinical Signs of Hypertrophy of the Thymus. D'Oelsnitz.
40 *Recalcification Treatment of Tuberculosis in Children. J. Comby.

37. **Septicemia in Scarlet Fever.**—In the case reported by Hutinel the scarlet fever accompanied varicella. The principal scarlatinal lesions were in the throat and mouth and the mucosa sloughed off at several points with general symptoms of septicemia, rapidly proving fatal. The viscera were found practically sound but the thyroid, suprarenal capsules and pituitary body showed marked lesions entailing defective functioning. The symptoms of the varicella and of the ordinary scarlatinal syndrome were comparatively mild; he had encountered this combination in twenty other cases previously, none showing any signs of extra virulence on the part of either infection. The extreme virulence in the case reported was evidently due to the influence of the scarlet fever on the ductless glands. He reported last year a case of acute inflammation of the suprarenals during scarlet fever in a little girl who recovered. Tixier found both suprarenals destroyed by hemorrhages and the pancreas gravely affected, at necropsy of a child succumbing to malignant scarlet fever, and Comby has since encountered a similar case except that the pancreas was intact. Hutinel believes that the scarlatinal lesions in these ductless glands modify the composition of the blood and that this in turn permits the streptococci to enter the blood. In other cases the liver may be the organ to feel the influence of the scarlatinal infection most severely. Treatment should be guided by the signs indicating which of the internal organs are bearing the brunt of the infection—the liver if there seems to be hepatic derangement; the suprarenals if they seem to be at fault. In the latter case epinephrin may be indicated. In either case, baths to reduce excessive temperature and means to cleanse the throat without irritating it and to sustain the heart may all prove useful.

38. **Hypertrophy of the Breasts at Puberty.**—In the case described by Caubet, the mother had had similar hypertrophy of the breasts at puberty. No treatment is effectual except removal of the breasts and this was done in twenty-five cases on record, which he summarizes. The results were good in every instance. The breasts weighed each from nearly 2 to 8 kilos, that is, from 5 to over 17 pounds. In Caubet's case the breasts were shaped like watermelons, and reached below the umbilicus. His compilation includes only the cases developing at puberty; the lesions were simple hypertrophy of the elements of the gland with passive edema.

39. **Clinical Signs of Hypertrophy of the Thymus.**—D'Oelsnitz analyzes ten cases in which the thymus was excessively large for the patient's age and seven other cases in which its hypertrophy was suspected. Three of the patients died from sudden suffocation from this cause; some difficulty in breathing had been noticed before but had not been traced to its true source. These cases teach the importance of examining the thymus whenever no other cause can be discovered for labored breathing, occasional or constant. The results of thymectomy in time are good. Hypertrophy of the thymus should be suspected with stridulous laryngitis when the croup stridor is of unusual intensity and duration. Epistaxis was noted in one case—probably a result of the local mechanical congestion. An intercurrent infection is liable to increase this congestion and render evident a hitherto latent hypertrophy of the thymus. During the suffocation there is cyanosis of the face, also slight edema of the lids; exophthalmos was pronounced in one case and the fontanelles bulged in the younger children. The cyanotic tint may persist constantly and the children may be dull and apathetic. The veins in the neck may be constantly or occasionally congested. The dyspnea is greater lying down. Symmetrical palpation, especially of the suprasternal fossa, during expiration, is instructive, as also percussion. Primary tracheotomy was done on a mistaken diagnosis in two cases, and secondary to partial thymectomy in another. The results in all were disastrous. Intubation may

be necessary in connection with thymectomy when there is concomitant spasm of the glottis.

40. **Recalcification in Treatment of Tuberculosis in Children.**—Comby reviews what has been published to date on the subject of the deficiency in lime as predisposing to tuberculosis and treatment aiming to restore the lacking lime. Ferrier was the pioneer in this line, and he insists on individual prophylactic measures to prevent waste of lime by decalcifying dyspepsia and gastro-intestinal fermentations, refraining from fats, acids and cheese. Comby gives children twice a day before meals a powder containing calcium phosphate, 0.25 gm.; calcium carbonate, 0.2 gm.; calcium chlorid, 0.15 gm., and magnesia usta, 0.1 gm. After ten days he gives for ten days a teaspoonful of 0.03 per cent. aqueous solution of sodium arsenate, then resuming the powders for ten days, and so on. [Ferrier's method of antiacid and alkaline treatment of tuberculosis was described in THE JOURNAL, May 1, 1909, page 1465.] Davel and Ginepro have reported good results with the Ferrier method at Buenos Aires, and Comby endorses the recommendations of Sergent and Letulle. The method does not conflict with but supplements the ordinary dietetic hygienic measures.

Lyon Médical, Lyons

February 19, CXVI, No. 8, pp. 309-352

41 *The White Line Sign of Suprarenal Disease. (La ligne blanche de Sergent.) Maurice.

February 26, No. 9, pp. 353-408

42 Induced Pneumothorax. J. P. Morat.

41. **The White Line.**—Maurice has been studying Sergent's dermographic sign of suprarenal insufficiency, the white line that follows if the finger nail is drawn along the skin of the trunk. Sergent regards it as a manifestation of abnormally low artificial tension and this, in turn, as the result of insufficiency on the part of the suprarenals. Maurice's experience confirms the interpretation of the white line as a sign of suprarenal insufficiency, but it is also a sign of toxic vasoconstrictor excitability. It indicates not only suprarenal treatment but also restrictive dietetic measures and disinfection of the intestinal tract. Nervous persons presenting this sign should be relieved of nervous strain, especially those with a history of severe diphtheria or scarlet fever or with symptoms of tuberculosis.

Presse Médicale, Paris

March 4, XIX, No. 19, pp. 161-176

43 Malta Fever Simulating Pernicious Anemia. G. Rauzier.
44 Two Cases of Symmetrical Lipomatosis. R. Burpler.
45 Influence of Inherited Taint in Primary Localization and Geographical Distribution of Lesions in Pulmonary Tuberculosis. J. Molle.

March 8, No. 20, pp. 177-184

46 Localization of Bullets in the Tissues. (Localisation des projectiles dans les tissus.) H. Chaput and Vaillant.
47 *Flat-Foot and Tuberculosis. P. Gorse and Dautheville.
48 *Fleas in Transmission of Plague for Long Distances. A. Raybaud.

47. **Flat-Foot and Tuberculosis.**—Gorse and Dautheville state that thirty-six men out of 498 with flat-foot developed tuberculosis during their military service in their regiment, while there were only 157 cases among the 12,390 men with normal feet. The proportion was thus 7 per cent. among the flat-foot squad and only 1.2 per cent. among the rest.

48. **Dangers of Transmission of Plague to Long Distances by Intermediation of Fleas.**—Raybaud calls attention to recent announcements that the rat flea, *Ceratophyllus fasciatus*, is able to hibernate for a month or forty-five days without nourishment, and that virulent plague germs can persist unharmed in its stomach during this length of time and even longer. He thinks that this fact is of great importance for the transmission of the plague to a distance. The marmot or land otter of northern China and the rats of Manchuria are undoubtedly infested with these and other fleas. When the fleas leave the bodies of the animals that have succumbed to the plague, they may seek refuge in bales of goods or cracks of boxes and live there at a temperature which renders them torpid, practically hibernating, while the germs in their interior maintain their vitality and virulence. In this condition, the fleas may be carried with the freight across Siberia or shipped by water to long distances. As the authorities do not consider it necessary, he says, to disinfect freight, there is nothing to prevent the fleas arriving in good condition in other countries, ready to infect rats or human beings, whichever they happen to encounter.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XVI, No. 2, pp. 199-372. Last indexed Jan. 28, p. 310

49 Isthmus of the Uterus and Placenta Prævia. H. Bayer.
50 Justification of Pubiotomy. (Soll die Hebosteotomie ihren Platz in der operativen Geburtshilfe bewahren?) H. Fehling.
51 Efforts to Improve the Technic for Cesarean Section. (Weiteres über die modernen Bestrebungen zur Veränderung der Kaiserschnittstechnik.) H. Seilheim.
52 *Postoperative Peritonitis, Especially the Diarrheic Form. E. Holzbach.
53 Determination of Capacity for Lactation. (Bestimmung der Stillfähigkeit nebst Statistik zur Beschaffenheit der weiblichen Brust und zum Stilligeschäft.) C. Stieda.
54 Histology of Ovarian Suppuration. (Pyovarium.) J. Wätjen.
55 Abnormal Nucleated Cells in Smooth Muscle. (Ueber abnorme Kernbildungen in den glatten Muskelfasern sowie über Mast- und Plasmazellen in Leiomyomen des Uterus.) B. Huguenin.
56 Hematoma of Masseter Muscle. (Eine typische Geburtsverletzung.) R. Hofstätter.
57 Finer Structure of Ganglion Cells in Ovarian Dermoids. A. Wolff.

52. **Diarrheic Postoperative Peritonitis.**—Holzbach warns that postoperative peritonitis may develop with an insidious course and slight general symptoms, profuse diarrhea being the chief sign of trouble. The peritonitis in these cases is a local infection of the pelvic cavity and can be conquered by prompt measures, walling off the small pelvis from the abdominal cavity above while the secretions are given free outlet. This is ensured by the low transverse incision which he prefers for operations on the ovaries, etc. During the operation he also makes a point of walling off the pelvis with sponges as a prophylactic measure. He cites a number of examples from his practice showing the prompt arrest of the diarrhea and subsidence of the peritonitis as soon as an outlet was provided for the pus or other secretions causing the trouble. Since he has made a practice of the above technic, the low transverse incision and the preventive gauze walling off of the pelvis, he has had no further cases of the kind.

Berliner klinische Wochenschrift

March 6, XLVIII, No. 10, pp. 413-460

58 Advantages of Lumbar Muscles as Site for Injection of Salvarsan. (Beschleunigte Resorption aus den Lendenmuskeln und die Verwendbarkeit dieser Muskeln für die Injektion von Salvarsan.) S. J. Meltzer (New York).
59 *Physical Factors in Action of Poisons and Drugs. (Wirkung von Giften und Arzneimitteln.) J. Traube.
60 Negative Influence of Santonin on Glycosuria in Diabetes Mellitus. G. Walterhöfer.
61 *Iodin-Exophthalmic Goiter. (Zur Frage des Jodbasedows.) S. Goldflam.
62 Diagnostic Importance of Cutaneous Tuberculin Reaction. (Diagnostischer Wert der v. Pirquetschen Reaktion.) P. S. Wallerstein.
63 Treatment of Tuberculosis with Tuberculin Cutaneous Inoculations. (Behandlung der Tuberkulose mit Tuberkulin-Cutanimpfungen.) P. S. Wallerstein.
64 Repeated Extrauterine Pregnancy. (Wiederholte Extrauteringravidität bei derselben Frau.) A. Frank.
65 Localization of Sexual Instinct in the Brain. (Ueber die cerebrale Lokalisation des Geschlechtstriebs.) A. Münzer.
66 Serology of Gout. (Serologische Beobachtungen in betreff der Gicht.) F. A. J. Falkenstein. Commenced in No. 9.
67 Necessity for Private Sanatoria for Patients with Infectious Diseases. (Notwendigkeit privater Heilanstalten für Infektionskranke.) F. Meyer.

59. **Importance of Physical Properties of Poisons and Drugs.**—Traube's research on the drop-forming properties of the organic fluids and chemicals has convinced him that the physical properties are of far greater importance than has been previously recognized. He accepts as a biologic law of far-reaching import the phenomenon he has repeatedly verified in his research, namely, that a poison becomes less toxic for the medium as the latter becomes turbid under the influence of the poison—that is, when precipitation is under way. This precipitation may occur in ultramicroscopic form long before it is possible to detect it with the naked eye which has hitherto been the criterion. The greater the toxicity of the poison, the greater the physical changes which it induces in the medium; if follows, hence, that the less the physical changes induced, the less toxic the chemical in question. He believes that this opens new lines of research in pharmacology and therapeutics.

The organism, he is convinced, is a physical machine to an extent never hitherto realized. The phenomena reported throw light, he declares, on the problems of immunity and anaphylaxis. For instance, 1 drop of a one-half normal solution of potassium iodid added to 10 c.c. of a 0.2 per cent. solution of *Nachtblau*, a colloidal basic dye, causes no change in the aspect of the fluid. It still appears extremely limpid, but this one drop of the iodid has transformed it into a condition of actual anaphylaxis. The mixture is now specifically hypersensitive to potassium iodid so that addition of a single drop more of the same potassium iodid solution is followed by heavy flaking—a specific precipitation.

61. **Iodin and Exophthalmic Goiter.**—Goldflam reports two instructive cases showing the danger of eliciting Basedow symptoms by therapeutic administration of iodin. The resulting disturbances are not the comparatively harmless and transient symptoms of iodism; on the contrary, the iodin seems to exert in these cases a specifically injurious action on the thyroid which persists after suspension and elimination of the drug. He warns that this is liable to occur whether the thyroid is perceptibly pathologic or not, especially with serous meningitis and incipient tabes, as well as with goiter and atherosclerosis. These iodin disturbances are by no means restricted to regions where goiter is prevalent. In his first case, symptoms of serous meningitis had existed for some months when a course of iodipin was instituted and was soon followed by tachycardia, enlargement of the thyroid and tremor of the fingers. In the second case a man of 34, who had been systematically treated for syphilis for years after infection at 20, developed incipient tabes. Considerable improvement was realized under subcutaneous injections of iodipin, when Basedow symptoms suddenly became manifest and were very distressing, particularly the severe diarrhea, emaciation and weakness. After suspension of the drug the symptoms finally completely subsided, proving their connection with the medication.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 1, XLI, No. 7, pp. 225-256

68 *Acute Hemorrhagic Pancreatitis. E. Monnier.
69 *Knee-Elbow Position with Ptosis of Viscera. (Kniecellenbogenlage bei Ptosis gewisser Bauchorgane.) R. v. Fellenberg.

March 10, No. 8, pp. 257-288

70 Modified Technic for Wassermann Reaction. (Modifikation der Wassermann'schen Reaktion nach von Dungern.) O. Roth.
71 *Predisposition of Apices to Tuberculosis. (Prädisposition der Lungenspitzen und Inhalations-Tuberkulose.) G. Huguenin. Commenced in No. 6.

68. **Acute Hemorrhagic Pancreatitis.**—Monnier reports the details of four fatal cases with necropsy from his practice during the last eighteen months. Two of the patients were previously healthy druggists, 42 and 45 years old; the third was a drinking sailor, and the fourth an obese woman of 54 with cholelithiasis. The influence of trauma was evident in one case and of an acute intestinal affection in another. The necropsy findings indicate that acute pancreatitis is always accompanied with extravasation of blood into the glandular tissue, injuring it to such a degree that it falls a prey to autodigestion. This in turn leads to production of extremely toxic substances, and the only relief is by early operative intervention. If this is delayed until the pancreas is injured beyond repair, little can be anticipated from it, although Hahn reports recovery when the patient was already in severe collapse; he made a high incision, rinsed the abdominal cavity with salt solution and drained. The main point is to think of the possibility of acute pancreatitis when called to a patient with symptoms suggesting ileus, cholelithiasis, perforation peritonitis or appendicitis. The lack of rigidity of the abdominal wall, the temperature higher than with ileus, the peculiar sallowness and the obstinate pain in the epigastrium speak for pancreatitis, as also the fact that several quarts of water can be poured into the bowel; this generally brings stool and gas. The pain with appendicitis is seldom so intense and persistent as with acute pancreatitis. The persistence of the pain, the rapid aggravation of the condition and the symptoms suggesting ileus are evidence against cholelithiasis alone, although this is usually the primal factor for the acute pancreatitis.

69. **Knee-Elbow Position for Visceral Ptosis.**—Fellenberg remarks that the advantages of the knee-elbow position for correction of ptosis of various viscera is only recently attracting the attention it deserves. He reports a case of recurring attacks of pain and nausea and other disturbances explained only by the discovery of a right wandering kidney. As soon as the patient, a young woman, assumed the knee-elbow position she experienced relief, and she learned to use this as a prophylactic measure, before going out for a walk, for instance. She refuses operative relief and is delighted that she can keep herself free from disturbances by this simple measure. Until this had been suggested she was growing more and more emaciated from the pains and digestive disturbances consequent on the physical anomaly. The pains come on, Fellenberg assumes, at the moment when the stomach content is being passed on into the intestine, the latter being compressed by the movable kidney; the more copious the meal the severer the pain. The kidney drops forward as the patient assumes the knee-elbow position, leaving the passage free for normal evacuation of the stomach. He thinks the same measure might prove effectual in some cases for displacement of the uterus, for mechanical ileus, hydronephrosis, or gall-stone colics and especially for arteriomesenteric occlusion of the bowel.

71. **Predisposition of Apices to Tuberculosis.**—Huguenin analyzes the mechanism of the cough, showing how even under normal conditions it is difficult for the apices to expel secretions and foreign particles. Even at the best they are expelled mostly by the apex being forced up against the roof of the thorax; when there is an unusually small space in the cupola of the thorax the effect is much less and it is least when the apex is already shriveled or indurated. The muscles controlling the cough in this part of the chest are weaker than elsewhere. The bronchial ramifications curve even in a normal lung when the upper part of the thorax has lost its elasticity. With a rigid aperture, the apex may be shut off so that it is quite impossible for it to participate in the act of coughing. When these conditions prevail, the cough may actually force substances up into the apex from the lower part of the lungs, the effect being thus the exact opposite of normal conditions. He discusses further how the child may inherit the phthisical chest from one parent while inheriting unusual resistance to tuberculosis from the other. Wherever tuberculosis may gain a foothold, it gets to the apices almost inevitably sooner or later. The most frequent form of pulmonary tuberculosis is that which originates in infection of the lymph vessels in the neck or chest. In fully 60 to 70 per cent. of his cases the apices had evidently become infected in this way. In only 15 or 20 per cent. was there evidence to indicate direct inhalation as responsible for the apical process. He estimates at less than 20 per cent. the number of cases of pulmonary tuberculosis in children in which infection occurred by way of the intestines. In adults the proportion is much less, under 4.7 per cent. Huguenin does not mention droplet infection in the course of his monograph, as he has never encountered a case, he states, in which there was the least glimmer of probability of this method of origin. But he ascribes quite an important rôle in pulmonary tuberculosis to primary infection by way of the skin and urogenital organs. In his experience, further, fully 79 per cent. of tuberculous bone and joint processes were secondary to preexisting tuberculosis. In this connection, he mentions a family in his charge in which the mother had tuberculosis, and of the six children one had pulmonary tuberculosis, one kidney tuberculosis, one tuberculous glands in the neck, one spina ventosa and phthisis later, and one a tuberculous ulceration on the hand with spina ventosa of two fingers later but no apparent glandular trouble; only one daughter was apparently free from tuberculosis.

Deutsche medizinische Wochenschrift, Berlin

March 9, XXXVII, No. 10, pp. 433-480

72 *Diagnosis and Treatment of Multiple Sclerosis in Its Early Stages. E. Schultze. Commenced in No. 8.
73 *Digestion of Vegetables. (Ueber Gemüseverdauung bei Gesunden und Kranken und über die zerkleinernde Funktion des Magens.) A. Schmidt.

74 Early Cutaneous Recurrence of Syphilis After Salvarsan Treatment. S. Bettmann.
75 Reaction of Tuberculous Processes After Salvarsan Injections. K. Herxheimer and K. Altmann.
76 Technic for Salvarsan Injections. P. Schober.
77 *Psychopathology of Suicide. (Selbstmord.) M. Sichel.
78 *Chronic Mediastinitis. (Das Krankheitsbild der chronischen fibrösen Mediastinitis nebst Beiträgen zur Klinik der Mediastino-Pericarditis und Concretio pericardii cum corde.) K. Radonicic.
79 *Experimental Research on Pathogenesis and Treatment of Gout. S. Cohn.
80 Reflex Anuria from Sudden Chilling. A. Hörder.
81 The Plague in China. (Die Lungenpest auf ihrem gegenwärtigen Zuge durch China.) Martini.

72. **Multiple Sclerosis.**—Schultze calls attention to the rise of temperature which generally accompanies the apoplectic seizures of multiple sclerosis and differentiates them from ordinary cerebral apoplexy. He warns against the damage that may be done by a mistaken assumption of hysteria as the cause of the disturbances resulting from multiple sclerosis. In a case of the kind no attention was paid to the patient's complaint that she became dizzy and felt like falling; she was ordered to conquer this and to exercise as the best means of curing the assumed hysteria. This was the very opposite of what should have been done. Patients with multiple sclerosis should spare themselves any unnecessary efforts, stopping at the slightest fatigue, with frequent pauses for rest. With severe disturbances the patients should stay in bed. Gentle measures are the only ones to apply. A mild course of mineral baths may help by increasing the patient's confidence in himself although the spa physician ascribes it to the waters. The number of drugs that have been used in treatment shows that none is really effectual.

73. **Digestion of Vegetables.**—Schmidt has been unable to discover any evidence to sustain the assumption that the digestion of vegetables occurs mostly in the intestines and that it is mainly the work of microbes. Outside of the body these are the factors involved, but they act very slowly in comparison to the rapidity of the digestion in the body; an ox, for instance, digests 7 pounds of cellulose and hemicellulose in a day, while nothing to approximate this can be realized *in vitro*. The extent of the digestion of cellulose in man, besides, is by no means proportional to the intensity of the putrefaction processes in the intestines. He reiterates that man stands midway between the herbivora and carnivora; some individuals are to-day more herbivorous while others are more of the carnivorous type. The former can digest even raw turnips, radishes, cucumbers and green salads; while others are unable to digest perfectly even cooked potatoes and beans. These and other facts cited demonstrate, he thinks, that the digestion of vegetables in general depends on the length of time they remain in the gastro-intestinal tract, but, chief of all, on the acidity of the gastric juice. The acid in the gastric juice dissolves the interstitial substance, thus liberating the cells of the vegetable fibers and enabling the alkaline intestinal juices to act on the single cells. When the gastric juice is exceptionally acid, the vegetable cells are separated and the digestion proceeds so completely that the elements of the vegetable cells are all taken up, leaving no waste to induce peristalsis—This is Schmidt's explanation of the cause of constipation in certain cases: digestion is too perfect. The gastric juice is only able to dissolve protein, and is unable to do even this perfectly if the amount is too large. At the same time this dissolving faculty is not the exclusive function of the gastric juice; it is done also and much more thoroughly, he asserts, by the pancreatic juice. It is most injurious therefore for intestinal digestion to have the cells still massed together when the mass is passed on into the intestines. Whether the proteins are dissolved or not is comparatively immaterial. No process below can take the place of the lacking disintegrating action of the acid gastric juice. Undissolved connective tissue in the stools thus testifies to the lack of proper gastric functioning in this respect. When the masses of either meat or vegetable are not broken up, the pancreatic juice cannot reach them and they linger undigested and afford lurking places for bacteria which in turn set up catarrh. The practical conclusion of the research reported emphasizes anew the importance of minute subdivision of the food when the gastric juice lacks the normal proportion of acid. The articles of food must be well cooked to loosen the connective tissue between the cells, and they must be ground in a mortar or put through a hair sieve. This mechanical subdivision of the articles of food is far more important than any other feature of the diet, he insists, and neglect of it soon avenges itself, especially in diarrhea of gastric origin.

77. **Psychopathology of Suicide.**—Sichel found evidence of mental derangement in a large proportion of persons who had attempted to commit suicide. In Munich it is the rule that every person who makes the attempt is sent to an asylum for study of his case. Sichel here reviews the different forms of nervous and mental disturbances in these would-be suicides.

78. **Chronic Fibrous Mediastinitis.**—Radonicic reports the details of eleven cases, classifying them according as the pathologic process was confined to the mediastinum proper or involved the pericardium or had entailed fusion of the pericardium. The ages ranged from 14 to 70. Fibrous mediastinitis is common, he states, but it is generally overlooked. One sign—the Oliver-Cardarelli—points unerringly to it; this is the downward pulsation palpable in the larynx. He explains the mechanism for this phenomenon which is observed not only with isolated fibrous bands in the mediastinum but also with involvement of the pericardium in the mediastinitis and adherent pericardium. There may also be a difference in the blood-pressure in the radial arteries in the recumbent position, this difference subsiding as the patient stands. This indicates also connective tissue cicatricial changes in the mediastinum. In a very few cases a systolic retraction of the chest wall in the entire left scapular region also may be observed with fusion of the pericardium with the pleura and the heart. This indicates retrocardial adhesion and the sign was marked in one of the cases reported. Radonicic has been unable to find any mention of this sign in the accessible literature. The fibrous mediastinitis was of tuberculous origin in the majority; in the other cases there was a history of pneumonia, cancer of the esophagus, rheumatism or syphilis. Anthracosis was encountered but once. Except for the constant difficulty in swallowing, the subjective symptoms were rare and vague; only a few patients complained of a burning pain in the chest or vague sensations back of the sternum. In conclusion, he discusses the interpretation of the radiographic findings.

79. **Gout.**—Cohn explains gout as the result of an overabundance of sodium; this promotes the development and persistence in the body of sodium urate which as it is deposited in the tissues forms the gouty tophi. On the other hand, he says, potassium may be regarded as an antidote for the sodium; the sodium-urate deposits can occur only in tissues deficient in potassium, such as connective tissue and cartilage. These assumptions explain the prevalence of gout among persons whose food contains a preponderance of sodium, such as meat, especially rare meat, as blood is one of the substances richest in sodium, averaging 19 parts sodium in 1,000 parts blood. Potatoes, on the other hand, contain the largest proportions of potassium, and those whose food consists mainly of potatoes are thus supplied in abundance with the potassium antidote to the sodium urate deposits.

Medizinische Klinik, Berlin

March 5, VII, No. 10, pp. 363-400

82 Determination of Destruction of Leprosy Bacilli in the Human Body. P. G. Unna.
83 Carbohydrate Courses in Diabetes. (Kohlehydratkuren bei Diabetes.) R. Kolisch.
84 Strabismus. (Das Schielen.) C. Cohen.
85 *Serotherapy in Toxemias of Pregnancy. R. Freund.
86 *Case of Fatal Arsenic Poisoning After Administration of Salvarsan in Treatment of Cerebral Syphilis. A. Jorgensen.
87 Clinical Pathology of Vestibular Apparatus. C. Stein.
88 Dissemination of Leprosy Bacilli in Disease of Respiratory Tract. L. Merian and C. Solano.

85. **Serotherapy of Pregnancy Auto-Intoxication.**—Freund has been applying serotherapy for eighteen months in treatment of toxemias of pregnancy and he thinks that his success justifies further trials of the method. He injected from 20 to 80 c.c. of freshly drawn horse serum in six patients with puerperal eclampsia and in each case there were only from one to four convulsions thereafter. He has recently injected the serum from healthy pregnant women near term into four

women with serious pregnancy disturbances—a psychosis and dermatosis with uncontrollable vomiting, neuralgia and jaundice in the first case. Marked improvement followed the third day after injection of 24 c.c. of the serum and complete recovery after the second injection a week after the first. This patient was a woman of 24, three months pregnant. In three other cases the eclampsia persisted after delivery; in the first case a total of 58 c.c. of serum was injected during the day, after the twelfth convulsion; seven other convulsions followed, after which the patient, a girl of 15, rapidly recovered. Five convulsions followed the injection of 40 c.c. of serum, preceded by withdrawal of 400 c.c. of blood, in the second case and recovery was uneventful. In the third case the eclampsia did not develop until after delivery and there were no convulsions after injection of 36 c.c. of serum preceded by venesection, after the patient had had eleven convulsions. Freund's experience thus supplements that recently reported by Mayer and Linser with serotherapy of pregnancy toxicoses, but he urges examination of the blood by the optic method in all such cases to obtain a scientific basis for estimation of indications, in addition to the data learned by empiric observation. [Compare Abstract 129 below.]

86. This seems to be the same case previously reported by Ehlers, mentioned in THE JOURNAL, Nov. 26, 1910, page 1941.

Münchener medizinische Wochenschrift

March 7, LVIII, No. 10, pp. 497-552

89 *Local Anesthesia for Major Operations on Breast and Thorax. G. Hirschel.
90 Desquamating Erythrodermia. (Stellung der Erythrodermia desquamativa im Krankheitssystem.) E. Moro.
91 Influenza? J. Trumpp.
92 *Psychic Disturbances with Chronic Cocain Intoxication. H. Higier.
93 Recurrences in Nervous System After Administration of Salvarsan in Syphilis. (Ueber die Neurorezidive nach Salvarsan, über Abortivheilung und weitere Erfahrungen.) J. F. Werther.
94 Salvarsan in Syphilis and Optic Neuritis. (Salvarsanbehandlung und Neuritis optica.) F. Schanz.
95 Salvarsan in Leprosy. (Einfluss des Salvarsan auf die Leprabazillen.) D. E. Montesanto.
96 Trichloracetic Acid as Efficient Substitute for Carbon Dioxid Snow in Treatment of Skin Diseases. G. Knauer.
97 Technic for Carbon Dioxid Snow Treatment. (Tubus zur Behandlung mit Kohlensäureschnee.) M. Kuznitzky.
98 Technic for Relief in Peritonitic Ileus. M. Kaehler.
99 Gastric Fever. A. Schnelier.
100 Medicolegal Diagnosis of Epilepsy. K. Heilbronner. Commenced in No. 9.

89. Local Anesthesia for Major Operations on the Chest.—Hirschel states that at Wilm's service at Heidelberg 487 major operations were done under local anesthesia in 1905 and the number has doubled and more each year since. He gives an illustrated description of the technic for amputation of the breast. He outlines the field of operation with a series of ten injections of the anesthetic, pointing the needle in four directions to spread the fluid. The first puncture in the axilla is the only one that is painful, the others being all at previously anesthetized points.

92. The Mental Disturbances with Chronic Cocain Poisoning.—Higier comments on the fact that the action and symptoms of a single acute poisoning with cocain are very different from those of chronic intoxication. It is not an accumulation of single intoxications, but an entirely different action on the nervous system. In a case described a dentist was taking 5 gm. of cocain daily. Heimann had a case in which 8 gm. was the daily dose and Sollier had a patient who occasionally took up to 12 gm. The needle punctures leave traces of brown almost black pigmentation; this is a sign peculiar to cocain. The paresthesias are not located at the periphery but on the trunk, and they produce the subjective impressions of foreign bodies under the skin. Most characteristic of all is the delirium with hallucinations; it resembles more the alcoholic delirium; but there are no objective signs of liquor drinking. The patient during the delirium can reason logically and behave normally in regard to surrounding objects until unconsciousness supervenes, the condition thus differing from that of ordinary drunkenness. With the cocain there is at first an exalted self-consciousness, followed by dyspnea and distress. Further testimony to the cocain as the cause of the mental disturbances is the favorable influence of morphin; morphin is almost an antidote for cocain poisoning. Higier adds that the hallucinations may drive the patient to commit suicide, which is an extremely rare occurrence in alcoholic delirium, even the most aggressive. Cocain can be suppressed abruptly, he continues; there is little reaction, while recurrence, he says, is rare. He denounces as false the statement in some of the works on toxicology in regard to habitual cocainomania, declaring that cocain addiction is readily curable.

Therapeutische Monatshefte, Berlin

March, XXV, No. 3, pp. 145-208

101 *Study of the Resistance and Ultra-Sensitiveness of the Animal Body to Chemical Agents. H. Hildebrandt.
102 Non-Operative Treatment of Inflammatory Gynecologic Lesions. (Nichtoperative Behandlung entzündlicher Frauenkrankheiten.) H. Freund.
103 Drugs Besides Quinin in Malaria. (Moderne Malariatherapie.) H. Werner.
104 *Dangers of Hydrotherapeutic Procedures for Infants. Haussen.
105 Technic of Intravenous Injection of Large Amounts of Fluids. G. Schwartz.
106 *Tribute to Efforts of the A. M. A. ("Nach amerikanischem Muster"). W. Heubner.

101. Resistance and Hypersusceptibility to Chemical Agents.—Hildebrandt discusses some of the recent additions to our knowledge in regard to anaphylaxis and resistance of the animal body to certain chemicals, concluding with a description of experimental work which seems to demonstrate that the hemolytic action of certain chemicals is annulled by the cholesterin element in the serum. This explains the benefit which Grimm observed in malaria under ingestion of cholesterin; the latter had an inhibiting effect on the hemolytic action of the malarial parasite. Hildebrandt suggests that similar benefit might be obtained in eclampsia from systematic administration of cholesterin. Hemolytic factors are certainly involved in the eclampsia syndrome, he thinks, and possibly the lack of substances with an affinity for fat may be responsible for this; administration of cholesterin might supply this lacking lipophilous substance.

104. Dangers of Hydrotherapeutic Procedures for Infants.—Hanssen reports three out of a larger number of cases in which an ordinary brief warm bath or a mustard pack was followed by threatening collapse on the part of infants 6 or 8 months old, with severe catarrhal enteritis, capillary bronchitis with eczema of the face or in infants convalescing from anemia following long overfeeding with cow's milk. Children entering the hospital should not be given a bath by the nurses before the child has been inspected by the physician or without his orders. If collapse occurs under any hydrotherapeutic measure Hanssen advises repeated injections of camphorated oil, with warm bottles and inhalation of oxygen. It is possible that such accidents from hydrotherapeutic measures are more common in children with the exudative diathesis or, rather, with the neuropathic tendency which generally accompanies it. Czerny has reported sudden fatalities under the first cold pack in neuropathic children. It is wiser, consequently, to refrain from hydrotherapeutic measures altogether with children of this exudative diathesis plus a neuropathic tendency, and especially from mustard packs which in other cases may prove so useful.

106. The Americans Set the Pace.—Heubner comments on the way in which his compatriots frequently wind up a very exaggerated statement by saying: "in true American style." He remarks that he read this expression recently in an article on the fraudulent advertising of certain proprietaries, which, it was stated, was "in true American style." Heubner then goes on to say that he wishes to inform his compatriots that in their attitude toward the abuses in the proprietary medicine business, "they are far behind the stand taken by the medical profession in America, whose American Medical Association has, on its own initiative and with its own forces, successfully organized means to supply every physician with reliable bases for his appreciation of new remedies." He adds: "In connection with the publication of a report of the Council on Pharmacy and Chemistry of the A. M. A., on the fraudulent statements made in advertisements of the preparation Formurol, put out by the Falkenberg firm (Berlin-Grünau), an editorial note states as follows (THE JOURNAL, Jan. 21, 1911, page 210)":

This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type—and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.

Heubner passionately exclaims after quoting this editorial note in full: "*'Laissez faire'!* How long, how long is this going to apply to us still in Germany! *(Wie lange wird es bei uns noch so heissen?)*"

Therapie der Gegenwart, Berlin

March, LII, No. 3, pp. 97-144

107 Treatment of Gout. (Behandlung der Gicht mit Phenylchinolcarbonsäure—Atophan—nebst Bemerkungen über die diätetische Therapie der Krankheit. W. Weintraud.
108 Roentgen-Ray Treatment of Cancer. (Aussichten für die Behandlung maligner Tumoren mit Röntgenstrahlen.) C. Müller and G. Klemperer.
109 Serotherapy of Tetanus. (Zwei mit hohen Antitoxingaben behandelte Fälle von Tetanus.) Everling.
110 Climatic Treatment of Hay Fever and Nervous Asthma. C. Widmer.
111 Inadequacy of Substitutes Offered for the Lung Suction Mask. (Ersatzmittel der Lungen-Saugmaske.) E. Kuhn.
112 *Recent Achievements and Problems of Chemistry. E. Fischer.

112. **New Achievements of Chemistry.**—In this address delivered recently by Professor Emil Fischer he comments on the way in which the discovery of radium has upset the preconceived notions in regard to the unchangeability of the chemical elements, and then remarks that in all this new work on radium the Germans have been merely passive lookers-on. This was owing to the fact that Germany has no radium-bearing ore and that few German scientists have means to purchase the expensive element. But he congratulates his country now on the discovery, by O. Hahn of Berlin, that several radio-active elements are present in the by-products of thorium used in the manufacture of mantle lights. He has isolated the bromid of mesothorium, one of these elements; it has radio-active power similar to radium. The small lump of the mesothorium which Fischer exhibited is equivalent, he stated, to 100 mg. of pure radium bromid, and it cost nearly $3,000. The Berlin Academy of Sciences is soon to have 250 mg. of this mesothorium at its disposal to loan to German scientists. The waste of the thorium manufactures in Germany will produce enough mesothorium annually to be the equivalent of 10 gm. of radium bromid—more than there is of the latter in the world to-day. Then, he intimates, Germany will have something to say for herself on the subject of radium. She was the pioneer in organic synthesis, commencing with Wöhler's artificial production of urea, and he stated that in his laboratory the most complicated substance thus produced by synthesis has recently been perfected. The raw materials for the production of the minute amount yet made cost about $250, but what to-day is merely a scientific toy and curiosity may to-morrow prove of wide practical importance; chemistry has many such fairy-tales to relate. He commented further on the close chemical relationship between the coloring matter of the plants and the blood-pigment. This seems to show a close blood relationship between the animal and vegetable kingdoms. Among the synthetic substances he described as recent achievements in science are synthetic caffein, which is now made extensively from guano, and synthetic epinephrin, made from coal tar.

Wiener klinische Wochenschrift, Vienna

March 2, XXIV, No. 9, pp. 299-334

113 Psychology and Pathology of the Emotions. (Zur Psychologie und Pathologie der Affektion.) J. Berze.
114 *Comparative Tests for Tubercle Bacilli in Tissues. (Wert der Antiformin-methode für den Tuberkelbazillennachweis im Gewebe.) C. Hart and O. Lessing.
115 Heart Murmur and Size of Heart. (Herzgeräusch und Herzgrösse.) P. Biach and D. Chilaiditi.
116 Microsporon Epidemic Scalp Disease at Vienna. R. O. Stein.
117 *Glandular Fever. (Adenoiditis acuta; ein Beitrag zur Lehre vom Drüsenfieber.) F. Schleissner.
118 Mechanism of Functioning of Leg with Paralyzed Quadriceps. O. Semeleder.

March 9, No. 10, pp. 335-370

119 *Permeability of the Meninges, Especially in Progressive Paralysis. E. Weil and V. Kafka.
120 Urine Content in Albumin and Tube-Casts While Taking a Course of Sulphate Waters. E. Pflanz.
121 Bantl's Disease. K. Ungar.
122 The Cancer Problem. (Das Problem der Krebskrankheit.) A. Fraenkel.

114. **Determination of Tubercle Bacilli in Tissues.**—Hart and Lessing state that tubercle bacilli do not lose their vitality even when the tissues are cut into frozen sections and treated with formol for half an hour. Animals inoculated with the tissues contract tuberculosis. Even when the frozen sections are stained with hematoxylin and differentiated with hydrochloric acid and alcohol, and after glycerin embedding are dissolved with 15 per cent. antiformin, still the tubercle bacilli are capable of infecting animals. Systematic examination in this way of the entire lymphatic apparatus is liable to throw light on a number of disputed problems. It is their impression that tuberculous infection of children is preeminently a dirt infection, occurring by way of the mouth, throat and intestine, while adults become infected by aspiration of the tubercle bacilli.

117. **Glandular Fever.**—Schleissner is convinced that what has been called acute glandular fever is very often merely inflammation of adenoid vegetations. Differentiation is difficult at first; the fever suggests an acute eruptive disease or gastro-intestinal or respiratory affection. In infants, the clinical picture may be that of a retropharyngeal abscess; the fever may keep up for several days and frequently recurring attacks may suggest tuberculosis. The peculiar shape and elastic consistency of the indolent tough glands is important for differentiation. Usually the attack runs its course in a few days. In one case otitis media developed. There was no tendency to nephritis in any of his cases. He does not advise active measures in treatment during the attack; the swelling of the glands usually subsides spontaneously. The children are generally of the exudative diathesis type, and it is wise to change the diet and limit the amount of food, hoping thus to influence the constitutional anomaly. It was his impression that considerable benefit followed in his cases, and he urges others to give this dietetic treatment a trial, limiting the children to a pint of milk a day at most and ordering a vegetable diet when this is possible.

119. **Permeability of the Meninges.**—Weil and Kafka have been testing the permeability of the meninges by determining the presence of antibodies in the cerebrospinal fluid. They tabulate the findings in forty-four cases. Fully 97 per cent. of the twenty-four patients with progressive paralysis gave a positive response while the findings were constantly negative in twenty controls with other nervous affections.

Zentralblatt für Chirurgie, Leipsic

March 4, XXXVIII, No. 9, pp. 305-344

123 *Successful Direct Transfusion of Blood by Suture of Blood-Vessels. (Zur Frage der direkten Bluttransfusion durch Gefässnaht.) H. Flörcken.
124 The Coxa Vara Question. W. Hagen and G. Drehmann.

123. **Direct Transfusion of Blood by Suture of Blood-Vessels.**—Flörcken applied this measure as a last resort in a case of staphylococcus bacteriemia. The patient was a woman of 24 with no history of hemophilia; during convalescence there was sudden hemorrhage from the nose, gums, rectum and stomach, the catheter brought only pure blood and there were petechiæ at the slightest external irritation. The blood seemed to be of normal constitution but the hemoglobin had dropped to 30 per cent. by the sixth day and the usual measures gave no permanent results. An older step-sister gave the blood for the transfusion; her left radial artery was sutured to the left median vein of the patient, the left hand of the sister lying in the bend of the patient's elbow. The lumina of the two vessels were protected by paraffin from drying and they were sutured together according to Carrel's technic. The difference in the size of the two vessels made the suture difficult but the procedure proved successful. The connection was kept up for half an hour, during which time the patient visibly revived; there were no further hemorrhages and she was soon restored to health.

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Zentralblatt für Gynäkologie, Leipsic

March 4, XXXV, No. 9, pp. 337-384

125 *Advantages of Trendelenburg Position for Obstetric Procedures. (Beckenhochlagerung in der Geburtshilfe.) E. Bumm.
126 Etiology of Placenta Prævia. O. Hoehne.
127 Eclampsia in Sixth Month of Pregnancy with Hydatidiform Mole without a Fetus. A. Sitzenfrey.
128 *Paroxysmal Tachycardia in Connection with Spontaneous Delivery. E. Langes.
129 *Serotherapy of Pregnancy Dermatoses. (Normales Schwangerenserum als Heilmittel gegen Schwangerschaftsdermatosen im besonderen und Schwangerschaftstoxikosen überhaupt.) A. Mayer.
130 *Treatment of Uterine Cancer. A. Theilhaber.
131 Reposition of Retroflexed Uterus. ("Eine neue leichte Methode der Reposition des retroflektierten Uterus.") M. Hirsch.

March 11, No. 10, pp. 385-432

132 Cultivation of Anaerobes in Obstetrical Cases. (Zur Anaerobenzüchtung in der Geburtshilfe.) O. Bondy.
133 Differentiation of Hemolytic Streptococci by Lecithin Bouillon. H. Mächtle.
134 *Pseudomenstruation. M. Neu.
135 *Roentgen Rays in Gynecology. (Neue radiotherapeutische Erfahrungen in der Gynäkologie auf Grund von 100 gutartigen Blutungen und Tumoren des Uterus.) C. J. Gauss.
136 Pathology of Universal Hydrops of the Fetus. R. Teuffel.

125. **The Trendelenburg Position in Obstetrics.**—Bumm calls attention to the advantages of raising the pelvis in doing obstetric operations, especially during extraperitoneal Cesarean section, and for internal version, bringing down the foot with breech presentation, prolapse of the umbilical cord, management of brow and face presentation, etc. By raising the pelvis the heavy uterus slides down out of the way and gives ample space for the obstetrician's hand. The more the presenting part is pressed down into the pelvis, the greater the favorable influence of the Trendelenburg position. In a recent case of transverse presentation, he was able to bring down a foot with ease when the pelvis was raised, the sliding down of the uterus causing a relaxation of the walls which, he is convinced, materially reduced the danger of rupture during the version.

128. **Paroxysmal Tachycardia with Spontaneous Delivery.**—Langes reports a case and cites two others from Zangemeister's experience in which paroxysmal tachycardia was observed in women with previously sound cardiovascular systems. In two cases the anomaly passed without leaving appreciable disturbances but in the other case acute dilatation developed, which must have impaired more or less the integrity of the mitral valve. A sudden increase in the pulse-rate may therefore be observed with normal delivery even with a sound heart, and this possibility should not be forgotten in cases suggesting internal hemorrhage.

129. **Serotherapy of Toxemias of Pregnancy.**—THE JOURNAL, February 4, page 388, mentioned a case of recurring pregnancy herpes which subsided after injection of 10 and 20 c.c. of serum from a healthy pregnant woman near term. Mayer here reports an additional case in which serotherapy was used for urticaria with severe pruritus in a healthy woman at term, and the affection promptly subsided. The pruritus returned a week later as labor commenced but ceased abruptly as delivery was complete. In two other cases of pregnancy toxicosis the serotherapy had a similar promptly beneficial effect, the pruritus ceasing at once after injection of the serum. He suggests that all kinds of pregnancy toxic disturbances, including eclampsia, albuminuria, hyperemesis, tetany and possibly osteomalacia might be benefited by this serotherapy. The aim is to supply substances present in the normal pregnant human organism, the lack of which is causing the trouble; horse serum consequently would not answer the purpose. He used serum exclusively from women giving a negative Wassermann reaction and apparently entirely healthy. [Compare with Abstract 85 above.]

130. **Treatment of Uterine Cancer.**—Theilhaber is convinced that defective nourishment of the mesodermal tissue is an important factor in development and recurrence of cancer. Consequently, retention of the ovaries may aid in preventing recurrence after removal of the uterine cervix by the flux of blood to the region at the menstrual periods. He cites statistics to show that the end-results are more satisfactory with partial operations than is generally conceded. Schröder has 40 per cent. still in good health of ninety-six patients treated by intravaginal or supravaginal amputation of the cancerous uterus from four to eleven years ago. Theilhaber emphasizes the necessity for distinguishing between the origin and the growth of a cancer; when the cancer is once installed, then particularly favorable conditions for nourishment, as in the young, promote the growth of the cancer. But he presents evidence to show that cancer does not start in well-nourished tissues. Another argument in favor of the partial operations is that there is less cicatricial tissue left and thus less predisposition to malignant disease. For these and other reasons cited, he now makes a practice of amputating the cancerous cervix in the vicinity of the internal os uteri. He also makes a point of promoting the circulation in the region afterward by inducing regional hyperemia with superheated air, sitz baths, etc. The patients are all tested for the Wassermann reaction and mercury and iodid given with positive findings.

134. **So-Called Postoperative Pseudomenstruation.**—Neu says that an apparently regular menstrual hemorrhage occurred two or three days after an operation on the uterine adnexa in each of his fifty-four cases of the kind since he has been studying the subject. His conclusion is that it is a true menstrual phenomenon for which the irritation from the operation gave the impulse.

135. **Roentgen Rays in Non-Malignant Gynecologic Disease.**—Gauss thinks that the time has come to cease to regard this method of treatment as still untried and unreliable. The first tentative efforts to utilize the Roentgen rays in gynecology are now long past and the method has reached a stable footing. He has been applying it for over four years and in 200 cases; he here analyzes the remarkably favorable end-results as observed in 100 cases during the last two years during which time the technic has been practically uniform. The report issues from Krönig's clinic at Freiburg, and Krönig's endorsement of the method was mentioned in these columns, Aug. 27, 1910, page 812, and Schindler's endorsement, December 17, page 2187. Gauss here discusses the various groups of cases, going into minute details in order to present the subject in its true light. The younger the patient the longer the course of treatment required. Myomas require about two months in women over 50 and three additional weeks in women under 45, while other hemorrhagic uterine affections require from nine to fifteen weeks before amenorrhea is definitely installed. Recent improvements in technic permit the necessary total dose of radiant units for a myoma to be incorporated in less than a month, the tumor rapidly shriveling under the influence of the rays. He summarizes in two charts the time and dosage required in the two classes of cases.

Zentralblatt für innere Medizin, Leipsic

March 11, XXXII, No. 10, pp. 249-272

137 *Percussion with Patient Leaning Against a Masonry Wall. (Wandperkussion.) G. Wenzel.

137. **Wall Percussion.**—Wenzel has found that percussion findings are much more characteristic and instructive when the patient stands with the back against a stone or brick wall. The findings in the supraclavicular and subclavicular fossæ are much more pronounced and characteristic when the patient, the trunk disrobed, rests his back against a masonry wall.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 5, XXXII, No. 28, pp. 291-306

138 Pathogenesis of Pellagra. (Patogenesi della pellagra e la nuova dottrina fotodinamica.) G. Ghedini.
139 Serotherapy of Glycosuria. (Sul meccanismo di azione dei sieri antiglycosurici.) L. Castriota.

Policlinico, Rome

March 5, XVIII, No. 10, pp. 293-324

140 Diagnosis and Treatment of Cholera. T. Pontano.

Riforma Medica, Naples

March 6, XXVII, No. 10, pp. 253-274

141 Salt-Poor Diet in Treatment of Ascites from Cirrhosis of the Liver. C. Achard.
142 Persistence of Cholera Germs in Dejecta of Convalescents. A. Montefusco.
143 Polymorphous Erythema in the Tuberculous. P. Ciuffini.
144 Kala-Azar in Sicily. (Qualche considerazione a proposito di un nuovo caso di anemia da leishmania—XXIII—osservato a Palermo.) S. Cannata.

Ugeskrift for Læger, Copenhagen

March 9, LXXIII, No. 10, pp. 324-356

145 *Connection Between Syphilis and Heart Disease. (Syfilitiske Hjertesygdomme.) V. Bie.

145. **Heart Disease and Syphilis.**—Bie is convinced that the frequency of syphilis as the causal factor of heart disease is underestimated. In his experience he found among eleven tabetic patients that one had well-defined insufficiency of the aortic valves and another the same in a milder form. Among seventeen patients with aneurysm of the aorta he found unmistakable evidences of syphilis in fourteen, that is, in 82 per cent. The Argyll-Robertson sign was positive in five of the sixteen examined and the knee-jerk was absent in three in this group as also in two others. In short, seven of the sixteen patients with aneurysm of the aorta presented unmistakable signs of incipient tabes. Analysis of the hospital records shows, he continues, that the knee-jerk was absent in 27 of 511 patients under treatment in the last two years. In this group of twenty-seven, eight had tabes and three dystrophy of the muscles, alcoholic neuritis or paraplegia. The remaining sixteen patients had either pneumonia or malignant disease of the stomach, with the exception of a child with mitral stenosis and a woman with chlorosis. Examination of the total pneumonia records showed that the knee-jerk was absent or feeble in 49 per cent. of the patients; this demonstrates that pneumonia alone is liable to abolish the knee-jerk. In the twenty-three cases of aortic valvular defect there was a history of acute articular rheumatism in nine, and of tabes in three, while there was a history of syphilis in four others. Only one of the seven patients with aortic insufficiency for which no explanation was evident was of an age to suggest the possibility of syphilis; the others were near or under 20. Similar analysis of the group of eighty-five patients with myocarditic or coronary disturbances showed that eleven were certainly and four probably syphilitic. Among the 187 cases of mitral defects at the hospital in the last ten years, acute rheumatism or chorea was known in the history of 120 of the 160 examined, and scarlet fever, pneumonia or puerperal fever in some of the other cases, but nothing of syphilis except in one case. The average age of the patients with mitral defect was 30, while with syphilitic aortic disease it was 42, for aneurysm of the aorta, 50, and for syphilitic myocardium trouble, 52. There is thus an interval of nearly fifteen years between the clinical development of these affections on a rheumatic and a syphilitic basis. It seems evident that syphilis attacks preferably the aorta and myocardium, while it spares the mitral valve. The connection between tabes dorsalis and heart disease in syphilitics is evident from the aortic disturbances so frequently noted in patients with tabes but still more by the frequency of symptoms of tabes observed in the course of heart or valvular affections, the absence of the pupil reflex in particular. The facts observed suggest, Bie thinks, that the heart affections in question are more closely allied to the parasyphilitic than to other kinds of late syphilitic affections.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

GENERAL MEDICINE. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Volume I, The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.50. Pp. 405. Chicago: The Year Book Publishers.

A MANUAL OF PRACTICAL INORGANIC CHEMISTRY. Including Preparations and Qualitative and Quantitative Analysis with the Rudiments of Gas Analysis. Specially Adapted to Cover Preliminary and Intermediate University Courses and the First Three Stages of the Syllabus of the Board of Education. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg) Lecturer on Chemistry at the Middlesex Hospital Medical School. Cloth. Price, $1.35. Pp. 347, with 51 illustrations. New York: Oxford University Press, 1910.

REPORT OF THE PRESIDENT OF STATE CHILDREN RELIEF BOARD, THE HON. C. K. MACKELLAR, M.B., C.M., M.L.C. For the Year Ended April 5, 1910. Legislative Assembly, New South Wales. Presented to Parliament pursuant to Act No. 61, 1901, Sec. 10. (Second Session.) 1910. Paper. Pp. 83.

THE PRINCIPLES AND PRACTICE OF DERMATOLOGY. Designed for Students and Practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois. Second Edition. Cloth. Price, $6. Pp. 1079, with 356 illustrations. New York: D. Appleton & Co., 1911.

A BRIEF TEXT OF PHYSIOLOGY. For Dental, Pre-Medical, and College Students. By Carl J. Wiggers, M.D., Department of Physiology, University of Michigan. Cloth. Price, $1.50. Pp. 207, with 47 illustrations. Ann Arbor: George Wahr.

REPORT OF THE MASSACHUSETTS COMMISSION TO INVESTIGATE THE QUESTION OF THE INCREASE OF CRIMINALS, MENTAL DEFECTIVES, EPILEPTICS AND DEGENERATES. January, 1911. Paper. Pp. 50.

THE INTERNATIONAL MEDICAL ANNUAL. A Year-Book of Treatment and Practitioner's Index. 1911. Twenty-Ninth Year. Cloth. Price, $3.50. Pp. 748. New York: E. B. Treat & Co.

PREVENTION OF INFECTIOUS DISEASES. By Alvah H. Doty, M.D., Health Officer of the Port of New York. Cloth. Price, $2.50. Pp. 281. New York: D. Appleton & Co., 1911.

New Patents

Recent Patents of Interest to Physicians

968232. Respiratory helmet. Harry Bentz, Larchmont, N. Y.
968481. Cottage or tent house. Philip A. Kessler, Chicago.
967943. Making hydrocyanic acid. Otto Liebknecht, Frankfort-on-the-Main, Germany.
968378. System for cooling and dispensing beverages. Mark W. Marsden, Philadelphia.
967949. Portable combination hammock and tent. Elliott B. Meredith, Forest Depot, Va.
968491. Liquid measuring and dispensing apparatus. Edward E. Murphy, Winchester, Mass.
967990. Producing clear stannic-chlorid solutions. Elmer A. Sperry, Brooklyn.
968209. Massage machine. Walter G. Trautman, Cleveland, Ohio.
968017. Bed-tent. Stephen G. Wilson, Philadelphia.
968306. Apparatus for administering anesthetics. Mario J. Wunderlich, Guatemala, Guatemala.
968728. Truss. Harry G. Ballou, Seattle, Wash.
968528. Generating oxygen. Andre Beltzer, Bridgeport, Conn.
968532. Charging capsule for siphons. Domingo Brescia, Quito, Ecuador.
969147. Foot-warming attachment for electrothermal garments. Burton R. Charles, Portland, Ore.
969134. Surgical instrument. Charles S. Cowie, Culpeper, Va.
968757. Inhaler. George O. Ferguson, Denver.
969099. Invalid rest. Henry Fuchs, Allegheny, Pa.
968932. Bed and douche pan. Joseph E. Gavin, New York.
969106. Thermometer. William Jandus, Cleveland, Ohio.
969073. Oxygen bath. Otto B. May, New York.
968704. Device for the treatment of rectal troubles. Charles M. Siebert, Jr., Columbus, Ohio.
969687. Awning or window tent. Irving Farlin, Battle Creek, Mich.
969464. Apparatus for forming water bags and other hollow articles. Akron, Ohio.
969474. Making basic sulphate of lead. Albert Hileman, Hollidaysburg, Pa.
969480. Electric switching apparatus. Samuel T. Hutton, Chicago.
969351. Invalid's bedrest. Olin La Dow, Arcola, Ill.
969640. Tampon. Lewis G. Langstaff, New York.
969291. Stopper and dropper. Richard L. Larson, Minneapolis.
969485. Vapor-generating apparatus for medical treatment. Joseph Lesperance, Montreal, Quebec, Canada.
969547. Ozonizer. Oscar Linder, Chicago.
969381. Making artificial cryolite. Gerhard Loesekann, Hanover, Germany.
969174. Invalid bedstead. Angus MacDonald, Melrose, Mass.
969657. Spray nozzle. James Reade, Huntington, N. Y.
969196. Ankle-joint for artificial limbs. James F. Rowley, Chicago.
969661. Generating formaldehyd. Hans Schneider, Hamburg, Germany.
969420. Oleic-acid derivative bodies of the terpene group. Nathan Sulzeberger, New York.
969736. Apparatus for sterilizing and oxidizing liquids with ozone. Alexander H. Twombly, Summit, N. J.
969579. Surgical instrument. Constantin Waldvogel, Pittsburg.
969933. Production of ferric salts. Anson G. Betts, Troy, N. Y.
969942. Thumb-sucking preventer. Albert B. Crandall, Red Wing, Minn.
969853. Making liquid sodium amalgam. Herbert P. Ewell, Detroit.
970215. Preparation impermeable for Roentgen rays. Oscar Gros, Leipsic, Germany.
969885. Making sodium cyanid. Otto Liebknecht, Frankfort-on-the-Main, Germany.
970077. Metal capsule. C. W. V. Messerschmidt, Copenhagen, Denmark.
970112. Making compounds of the active substance of suprarenal glands.
970357. Hospital or invalid's bed. John G. Segesman and G. Binggeli, Salem, Ohio.
970145. Making formic acid. William H. Walker, Boston.